THE MATERNAL MANAGEMENT OF CHILDREN

IN HEALTH AND DISEASE.

BY

THOMAS BULL, M.D.

Author of 'Hints to Mothers for the Management of their Health during the period of Pregnancy and in the Lying-in Room.'

THOROUGHLY REVISED

BY

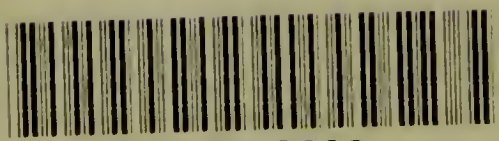
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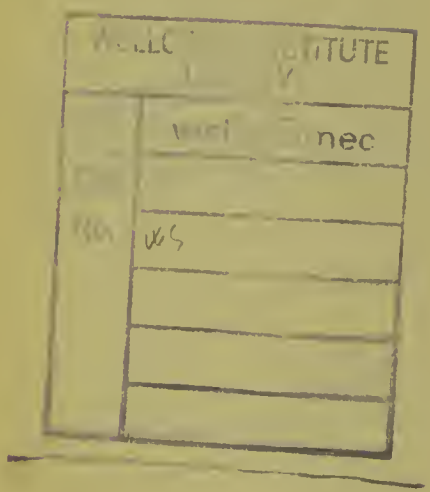
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PUBLISHERS' PREFACE.

Some years having elapsed since this work and its companion volume, 'Hints to Mothers for the Management of their Health,' had the advantage of the Author's revision, it appeared to the Publishers that, before issuing new editions, it was desirable to subject them to a thorough revision, and to make all such additions as had become necessary in consequence of recent advances in Medical Science.

After due consideration the two works were placed in the hands of Mr. Parker, for some years Resident Medical Officer at the Hospital for Sick Children, and it is under his Editorship that these new editions make their appearance.

The Publishers would only add that the large sale and constant demand for these works —one having passed through twenty-four and the other through thirteen editions—may—

not unfairly—be appealed to as a testimony of their excellence. Not only have they been thus extensively circulated at home, but thousands of copies have been sent and taken out to the Colonies and to America, thus testifying to the great popularity which the works enjoy in places where medical aid is not so readily obtainable as in our own country.

EDITOR'S PREFACE.

In the autumn of 1875 I was asked by the Publishers to undertake the revision of this well-known work and its companion volume, 'Hints to Mothers.' Believing that the experience I had gained, whilst holding various resident and other appointments in hospitals, both in England and on the Continent, would materially help me, I undertook the task.

I wish it to be distinctly understood that the general plan of the work remains unchanged, although it has been found necessary to make alterations in many and to rewrite some of the chapters altogether. I can lay no claim to any of the credit, which the undoubted merits of the book have earned for it; this belongs to its original author. My task has been to adapt the subject-matter to the altered views which are now held both as regards the recognition and the treatment of disease.

No attempt has been made to alter the homely style in which the volume was originally written, nor to introduce material appropriate to a text-book of medicine but not to a guide for lay-readers.

Such hints as are necessary for an emergency, or in the unavoidable absence of the medical man, are given throughout the volume, and I have fully kept in mind the fact that the book circulates freely in the Colonies, where medical help is not always obtainable, but where prompt action is urgently required.

ROBERT WM. PARKER.

LONDON: *October* 1876.

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THE

MATERNAL MANAGEMENT

OF

CHILDREN.

Introductory Remarks on the Great Mortality of Children, and the Lessons which this Knowledge teaches.

In the Supplement to the Thirty-fifth Annual Report of the Registrar-General [1] we find it stated that one child out of every six that are born dies within the first five years of its birth, even in the healthy districts; and that in Liverpool, 'which serves to represent the most unfavourable sanitary conditions,' 'nearly half the number born die in the five years following their birth.' It can be seen also, by reference to the elaborate tables of mortality, that more than one-half of the entire number of the deaths takes place during and within the first year of life.

Dr. Farr, in referring to this subject, says: 'The mortality of infants evidently depends, to some extent,

[1] Published by Messrs. Eyre and Spottiswoode. London, 1875.

on the midwifery of a country: on the way the children are fed by the mothers; on the water; and on the cleanliness observed, as well as on the other sanitary conditions.'

Now these observations are founded on actual statistics, compiled by order of the Government, and can be consulted by anyone who feels inclined to doubt their accuracy. It is exceedingly probable that this rate of mortality (which is computed for the whole of England) is higher than that which actually occurs in the class of people who care to consult such a book as this. But although certain social and sanitary conditions surround the children of this class which undoubtedly tend to lessen the mortality, it is yet only too evident that much remains to be accomplished, and that the conditions which alone render a child vigorous at its birth and enable it to live through the most critical period of its life are either misunderstood, neglected, or ignored. To show what these conditions are, and how they may best be carried out, *and above all, to prove that they cannot be neglected with impunity*, is one of the objects of this little work. Whatever be the mortality in any given class of the community — small or great, it may be greatly diminished. The distress of witnessing a suffering infancy cut short by an early death just as the child is beginning to reward all the parents' care and anxiety, may be prevented in multitudes of cases. But the *early* death of offspring is not the only penalty that must be paid. For, what is still worse, they survive only to struggle with all the consequences of weak constitutions, and to perish just as they begin to fulfil all the hopes of their friends. Or, if this do not happen, they carry through life, as long as it lasts,

a state of health which deprives their minds of elasticity, their tempers of serenity, and their duties of enjoyment.

Since the diligent observance of what is to be recommended to her involves so great a reward, and its neglect so painful a retribution, no appeal to the mother's sense of duty can be needed. It is true she must be content to take the representations here given on trust, unless she extend her studies beyond these pages. If she is alive to her responsibilities, she will not withhold her earnest and conscientious attention, until she has mastered the evidence on which the medical profession urge compliance with all the means of ensuring health.

The causes which affect the health and life of offspring fall under two heads: those which have reference to the state of the parents *before* the birth of the child; and those which act *directly* upon the child after the commencement of its independent existence.

The first class includes, of course, those tendencies to disease which are derived from both parents at the time of conception, and those which act through the medium of the mother's system alone, and which are especially under her control—viz., her state of health and conduct during pregnancy. Of the influence of those which operate at the time of conception, the most striking contrasts are met with in different families. Amongst the wealthy of the land, where the nurture of the body is sedulously pursued, and under the greatest advantages, it is sometimes found to be difficult, and in many instances impossible, to rear the children to maturity. Consumption, or strumous disease in one or other of its manifold phases, or some other hereditary disorder, carries off

one child after another, the utmost care not being more than enough to save one sickly child; whilst in the families of another class, and where the external circumstances are not so favourable to the cultivation of health, you may see one child after another born with a perfectly healthy system, and growing up to a vigorous manhood, such a thing as disease being scarcely known in their nursery, if you except those disorders which all, in infancy, are more or less liable to. The disease in the former case is transmitted from the parents to the offspring, and the stock is unhealthy, whilst in the latter the children are healthy because the constitutions of those from whom they have derived their being are so. External circumstances and management will not explain the different result; indeed, we have supposed them in favour of the delicate and sickly. In all ages this fact of hereditary influence upon the constitution of offspring has been admitted; and although here and there you may meet with an apparent exception, the general rule holds true. If this exception be traced on for a few years, it will sometimes prove to be no exception at all; for hereditary disease after awhile manifests itself. Its seeds had evidently existed at birth, and have only been lying dormant in the system. But over this source of mischief to infant life, I confess the mother has little immediate control. She has, however, a very absolute control over those tendencies which arise from her conduct and state of health during the pregnant state. The natural dispositions and capabilities of children are inherited or produced by favourable or unfavourable circumstances, operating on the parents previous to the birth.

1. Observation shows that the *first children* of

very young mothers, whatever sprightliness they may evince from a high flow of animal spirits, are generally deficient in strength of intellect and stability of character. How, indeed, could it be otherwise, when the parents had spent the first years of married life in a career of *dissipated amusements*, in which the cultivation of the mind had been totally neglected; neither reading, rational conversation, nor reflection had been practised to exercise and strengthen it?

2. Many strong-minded observing *mothers have recognised in their children* the *same sentiments* in which they *indulged*, and the peculiar *habits* which they had *practised*, *during* the whole period of their *pregnancy*. Hence, it ought to be an object of the first importance with every woman about to become a mother, to exercise her mental perceptions, reasoning faculties, and moral sentiments, to their full extent—to cultivate kind feelings and noble aspirations—to indulge in no pursuits unworthy of a rational immortal being—and to ascertain and live in accordance with the laws instituted by the Creator for the preservation of health; so that her child may be perfect in mental, moral, and physical organisation.

The young mother is, perhaps, little aware how much the health and vigour of her expected offspring depend upon her care and prudence, and how she may entail on it the evils of a weak, suffering, and brief existence by an ignorant or wilful neglect. Let it be impressed on her mind that she must consider herself a mother, not only from the birth of her child, but even from the first moment of its conception, and that from that moment her duties commence. 'Physical education commences with the pregnancy of the mother. There is so remarkable and intimate a con-

nection between the child and its parent, that it is difficult to say whether any important change can take place in the physical or mental condition of the mother, which is not liable to produce some corresponding change upon the condition of the child; and even supposing some physiologists to have carried the theory of this connection too far, yet the mere possibility of such important consequences as are involved in its being true, ought to be quite sufficient motive with every rational woman for the extremest discretion. It is certain, however, that the future health and constitution of the offspring are greatly, though it may be to an indefinite extent, dependent upon the conduct of the mother. If she carefully adopt the means of management to which allusion has been made, experience shows that she takes the most likely steps to ensure a healthy progeny. If, however, she is careless and negligent upon this head, and also fails in attention to the measures which her new condition demands, perhaps indulging in that course which under ordinary circumstances would be directly opposed to the maintenance of health, her child will inevitably be variously and injuriously affected, these causes operating through her system upon that of the child.'[1] But this subject is one which concerns the parent's health, and does not immediately belong to the present inquiry, and has been fully dwelt upon in the work just quoted. I need only once for all observe, that the great aim and object of the mother ought to be to maintain the general health in the state of the greatest vigour, and that this can only be accomplished by a daily and strict compliance with the laws of health.

[1] *Hints to Mothers*, p. 17.

One word only in regard to the *mental health* of the mother. It has often been remarked, that great and eminent men receive from their mothers, even before they see the light, half the mental disposition and other peculiarities of character by which they are afterwards distinguished. It is of curious significancy that in the lower animals, habits which are the result of training in the parent will manifest themselves in the young without that process—as, for instance, particular modes of hunting. It is quite agreeable to analogy to think that the disposition and temper of the expected offspring may be influenced (independently of its bodily healthiness) by the moral feelings which the mother either permits or cultivates in herself. This consideration may well be allowed to give additional energy to all efforts of self-government on the part of those who expect to be mothers; though irascibility, ill temper, and all the other foes to cheerfulness and peace, had better be encountered and subdued before this fresh responsibility arrives. 'As the bodies of children are imperceptibly affected by the air they breathe, so are their minds by the moral atmosphere which surrounds them.'

Of the causes which after birth act directly upon the system of the child, and undermine its health, it is not too much to affirm that by far the greater part are owing to ignorance and mismanagement. The infectious and unavoidable diseases to which infantile life is liable, are of course productive of a certain amount of mortality; but this bears no proportion whatever to that produced by the causes just mentioned. That the latter are the grand source of destruction (however unwilling we may be to admit it), the experience of the past and present time

affords most undeniable proof. If it would not tire the reader, facts might be given of the most striking character. To mention one example only. About a century ago the workhouses in London presented the astounding result of *twenty-three deaths* in every *twenty-four* infants under the age of one year! In consequence of a parliamentary inquiry, an improved system of management was adopted; and the proportion of deaths was quickly reduced from 1,600 to 450 a year. In these institutions alone, then, there was an annual loss of 1,150 lives clearly traceable to ignorance and mismanagement. The various returns of the causes of death which have been compiled from time to time, not only in England, but in various parts of the continent of Europe, most unequivocally show that infant existence is mostly cut short by a want of the necessaries of life and of rational procedure, rather than by causes which cannot be avoided. It is very manifest to those who are at the post of observation, that few families, even of the wealthier class, act on the principles and laws of health. Hence in some families the services of a medical man are scarcely ever required, whilst in others he is scarcely out of the house. It must not be said that the children of the two families have not equally healthy constitutions. The observation of many years has proved that this explanation will not always apply. The real secret of the difference is traceable to the kind of domestic treatment followed in each. Again and again have I seen a delicate and sickly child become vigorous and healthy under a judicious system, whilst, in another family, the child that was born strong and healthy has withered, pined, and died, simply from bad management. Here, surely, the probabilities were in favour of the latter. Or it

may be, the *first-born* child grows up delicate and weakly; but the parents are wise enough to use their dear-bought experience, and the adoption of a more rational course secures a better lot for the future children. Such instances unequivocally prove that health is not a mere matter of chance, but the natural reward of an intelligent and persevering prudence.

Then, again, in reference to teething, and to those complaints of infant life to which all are more or less subject, it is most important that the mother should distinctly understand that the adoption from the first of a mode of management in accordance with the nature and wants of the infant constitution, is by far the most effectual way to diminish their danger. A large proportion of the diseases, which do destroy life in early infancy, are more or less directly connected with the condition of the digestive organs and bowels, and one of the principal sources of derangement is undoubtedly errors in diet. Mistaken kindness, sacrificing the health of a child to the indulgence of the false love of the parent, constantly occasions this evil. I have seen a child, who, from the careful management of the mother, had never had a day's illness, sustain an attack of diarrhœa, which endangered its life, from the father giving an improper article of food. Now this mistake in a minor degree is constantly practised by parents; and although the mischief may not be manifested so quickly, a sure and permanent injury is being inflicted.

The consideration of all the points in which 'bad management' may be exemplified, would be premature in an introductory chapter. But let us take that of *ventilation*. The want of it, in the apartments occupied by children, is fruitful of evil. To be convinced

of the influence of atmosphere on health, it is only necessary to consult the tables of the Registrar-General, or to stroll through some of the back slums of a populous town, and compare the pale-faced puny children playing about there with the rosy-cheeked 'bairns' of a country village, and then judge for oneself. Common sense will at once suggest that it is the want of pure fresh air which causes the marked difference in the appearance of these two classes of children. But we must not allow ourselves to be deceived by the appearances, nor are we to suppose that these marked effects will be produced all at once; on the contrary, the effects of bad ventilation will be slow, possibly imperceptible, and insidious; and this is one of its worst features, for the health of a child may become undermined before the parents' attention is drawn to the fact: they have become so gradually familiar with the pallid and sallow face, that its real significance may have been overlooked; or, again, the effects of deficient air and overcrowding may not show themselves until these children have in their turn become parents, and then their weakly and undergrown offspring will tell the tale, that may have remained silent and hidden for so many years.

And in localities where necessity, not choice, compels her to reside, the mother may, by judicious arrangements, successfully combat all that is unfriendly to health and long life. It is enough that most of the conditions on which the health of offspring depends can be more or less completely secured by the generality of parents. They may not be able to remove to a detached villa in a choice locality; but most of those who will purchase a book of instructions, such as this professes to be, have the means of provid-

ing their children with all that is required for more than an average degree of healthiness. This conviction is surely sufficient to animate the parent's resolution to act up to her responsibilities.

The majority of young married women usually leave this sort of knowledge to be acquired at the cost of a dear experience. It ought not, and it needs not, be paid for at such a rate. 'She *becomes* a mother without a suspicion of her deficiency in even the most ordinary information concerning the nature and functions of the infant being whom she is so suddenly called upon to cherish and bring up.' She has *then* to educate herself, or rather she becomes educated very often at the sacrifice of her first-born. How much wiser if, from the moment the wife finds herself likely to become a mother, she commenced seeking the knowledge which would fit her for her duties.

It cannot be supposed for a moment that I believe in the possibility of banishing illness from the nursery. Illness must and will come more or less to all. Hereditary disease will produce it—infection will give rise to it—as will other causes over which we have but little control. All I argue for is the use of the best means to prevent that large amount of sickness and death due to ignorance and mismanagement, which may be assuredly greatly diminished by the mother *early* fitting herself for all that the title of mother implies. So live that your offspring shall inherit a healthy body—so bring them up, that health shall be preserved, and life worth having—and if disease attack them, study to help and not to impede the efforts made to restore them.

I will only further observe, that in looking around me I can safely affirm, as the result of an experience

of above twenty years, that, in those families in which the principles laid down in this work have been followed out with persevering care, patience, and judgment—with the exception of disease from unavoidable causes, the children have grown up strong and healthy. But then parents and dependents *have* steadily acted day by day up to these principles, in themselves simple enough, but demanding the exercise of constant self-control, until they become the very habit of nursery government.

It is necessary to apprise the reader that throughout this book the period of INFANCY is considered to be under *two years of age*—and that of CHILDHOOD from *two to eight years of age.*

PART I.

MANAGEMENT OF CHILDREN IN HEALTH.

CHAPTER I.

MATERNAL NURSING.

Sect. 1.—The Duty and Advantages of the Mother Nursing her Infant.

It may be called a fixed law of Nature that a *healthy* woman should suckle her offspring. There are exceptions; but as a general rule it holds good, and, like all other laws in nature, it cannot be broken with impunity. To refuse to comply with this arrangement of Providence, is to forego the first reward of previous suffering. It is plainly intended to cherish and increase the love of the parent herself, and to establish in the dependent and helpless infant from the first hours of its existence those associations on which its affection and confidence afterwards will be most securely founded. The evidence of design is manifest. So long as the child is unborn, no milk is secreted in the mother's breast, but no sooner does she give it birth, than this fluid is prepared and poured forth, admirably fitted in its qualities for the rapid

growth of the babe's delicate organism. It embraces the three principles (the albuminous, the oleaginous, and saccharine) of which the diet of man consists in his most perfect physical development and greatest intellectual vigour; and moreover is the only food supplied by nature, in which such a combination does exist. 'It is a model,' says Dr. Prout, 'of what an alimentary substance ought to be—a kind of prototype, as it were, of nutritious materials in general.' And thus it continues to be secreted day by day, until, having acquired the power of assimilating other kinds of food, and of extracting from them those elements which are necessary to its further growth, the digestive organs of the infant no longer require this compound food.

Nursing would also seem to be as beneficial to the system of the healthy woman as to her child. In the lying-in month it undoubtedly is the means of preventing or diminishing the tendency to disease. During the whole period of nursing it contributes greatly to preserve and promote the mother's health; for no period of the woman's life, generally speaking, is so healthy as this, and many a woman who has previously been delicate will become robust and strong at this time. In most women it prevents the too frequent recurrence of pregnancy, than which nothing tends so surely to undermine the constitution, and to induce a premature old age. It diminishes the disposition to cancerous affections of the breast; for although women who have had children are still liable to these, 'yet it is undoubtedly true, that breasts which have been unemployed in suckling in women who have been married, but are childless, and in those who have remained single, are more prone to malignant

diseases than those of women who have nursed large families.' [1]

It is very clear that there is no nourishment so well suited to the constitution of the individual child as its own mother's milk; there is a natural relation between the two, which is not so perfectly realised when the child is transferred to another breast. This practice, however, when it does not arise from necessity, is not nearly so prevalent as in former times. There are few women in the present day disposed to devolve the dearest and greatest privilege of a mother on a stranger. But whenever, without due reason, the *healthy* woman of fashionable life, from caprice, the fear of trouble, the loss of pleasure, the anxiety to avoid the confinement which suckling necessarily imposes, or any cause of a like frivolous kind—feels disposed to break this law of her being, it behoves her to look to the possible consequences to herself of being out of harmony with it—for no one can fail to perceive the significance of the facts to which allusion has just been made. Animals, even those of the most ferocious character, show affection for their young; *they* do not forsake or neglect them, but yield them their milk and watch over them with the tenderest care—woman, who is possessed of reason as well as instinct, must not manifest a love below that of the brute creature.

Sect. 2.—Of Mothers who cannot Suckle.

There are circumstances undoubtedly *which disqualify* the parent from the performance of this duty, and I believe such individuals for the most part will

[1] Sir Astley Cooper on *Diseases of the Breast*, p. 137.

be found less liable to the consequences of such neglect (just referred to) than the robust and healthy. *Sometimes* a delicate state of the system will forbid it. Here, however, it will be well to make the attempt, if sanctioned by the medical attendant; and if persevering attention is given to the various measures that invigorate the system, it may be that the delicate woman will become strong, and be enabled to nurse, beneficially to herself and her child. The experiment should always be fairly tried, and never given up hastily; and if it fail, the consequence of the trial, under judicious medical superintendence, will not be attended with injury. *Sometimes* a defect in the structure of the breasts or nipples renders them unfit to yield milk; here there is no remedy, and the disqualification must be submitted to. *Sometimes* the defect is simply in the nipple. It may be too small and sunken—or, from disease, it may be excoriated or cracked; and whenever the attempt to suckle is made, it is attended with great agony; perseverance in the use of proper means will frequently remedy this defect in both cases.[1] There are now and then, however, instances in which experience strongly proves that the parent ought most assuredly *not to attempt* nursing her offspring, as it would inflict irremediable injury; and to these cases I shall devote the next section.

Sect. 3.—Of Mothers who ought not to Suckle.

There are some women who ought never to undertake the office of suckling, not so much on account of their own health, as that of their offspring.

[1] See *Hints to Mothers*, pp. 205 and 206.

The woman of a consumptive and strumous constitution.—In the infant born of such a parent there will be a constitutional predisposition to the same disease; and, if it is nourished from her system, this hereditary transmission will be strengthened. 'No fact in medicine is better established than that which proves the hereditary transmission from parents to children of a constitutional liability to pulmonary disease, and especially to consumption; yet no condition is less attended to in forming matrimonial engagements. The children of scrofulous and consumptive parents are generally precocious, and their minds being early matured, they engage early in the business of life, and often enter the married state before their bodily frame has had time to consolidate. For a few years everything seems to go on prosperously, and a numerous family gathers around them. All at once, however, even while youth remains, their physical powers begin to give way, and they drop prematurely into the grave, exhausted by consumption, and leaving children behind them, destined, in all probability, either to be cut off as they approach maturity, or to run through the same delusive but fatal career as that of the parents from whom they derived their existence.'[1] There is scarcely an individual who reads these statements who will not recall some illustration of their truth, though they perhaps may have hitherto been in ignorance of the cause. The constitution, then, of such a female renders her unfit for the task of nursing; and however painful to her feelings it may be, she must recollect that it will be far better for her own health, and infinitely more so for that of

[1] Coombe's *Principles of Physiology applied to the Preservation of Health, &c.*

the child, that she should not even attempt it—that her own health would be injured, and her infant's, sooner or later, destroyed by it.

The infant of a consumptive parent, however, must not be brought up by hand. It must have a young, healthy, and vigorous wet-nurse; and in selecting a woman for this important duty very great care must be observed.[1] The child should be nursed till it is eight or ten months old. In some cases it will be right, and even necessary, to prolong the time of suckling; but this must always be referred to the medical attendant, and then it may and probably will be desirable to have a fresh wet-nurse, whose milk will contain more nourishment, and one better suited to the requirements of a backward child. If the child is partially fed during the latter months (from necessity or any other cause), the food should be of the lightest quality, and constitute but a small proportion of its nutriment. Such a child must have a perfectly pure atmosphere to breathe, and sufficient exercise. All derangements of the digestive functions—such as thrush, vomiting, diarrhœa, offensive motions—should be brought under the notice of the medical attendant. By a rigid attention to these measures the mother adopts the surest antidote indirectly to subdue the constitutional predisposition to that disease, the seeds of which, if not directly inherited from the parent, are frequently developed in the infant during the period of nursing; and at the same time she takes the best means to engender a sound and healthy constitution in her child. This, surely, is worth any sacrifice.

[1] See Choice of a Wet-Nurse, p. 46.

If the infant derives the disposition to a strumous constitution entirely from the father, and the mother's health be unexceptionable, then I would strongly advise her to suckle her own child. This subject is fully dwelt upon in the chapter on the prevention of scrofula and consumption.

The mother of a highly susceptible nervous temperament.—The mother who is alarmed at any accidental change she may happen to notice in her infant's countenance—who is excited and agitated by the ordinary occurrences of the day—such a parent will do her offspring more harm than good by attempting to suckle it. Her milk will be totally unfit for its nourishment: at one time it will be deficient in quantity—at another, so depraved in its quality that serious disturbance to the infant's health will ensue. The habit of 'giving way,' on which for the most part all this depends, is now wrong, if it never was before. Self-control is in general the thing that is needed. There are, however, exceptions to this as the cause. The young and inexperienced mother, who is a parent for the first time, and altogether ignorant of the duties of her office, and at the same time most anxious to fulfil them faithfully, is but too frequently an instance in point; although at a future period she will generally make a good nurse. The following is an illustration:—A young married lady gave birth to a plump, healthy boy. Everything went on well for three weeks, the mother having an abundant supply of milk, and the infant evidently thriving upon it. About this time, however, the child had frequent fits of crying; the bowels became obstinately costive—the motions being lumpy, of a mixed colour, quite dry and passed with great pain. It became rapidly thin, and after a

short time its flesh was so wasted, and became so flabby, that it might be said literally to hang on the bones. The fits of crying now increased in frequency and in violence, coming on every time it left the breast, when it would commence screaming violently, beat the air with its hands and feet, and nothing could appease it. This would last for half an hour or more, when it would fall asleep quite exhausted; the fit recurring again and again after every nursing. It was very evident that the infant's hunger was not satisfied or its body nourished by the parent's milk, which, although abundant in quantity (the breast being large and full of milk), was at this time seriously deteriorated in its nutritive quality. This was caused, I believe, from great anxiety of mind. Her monthly nurse became suddenly deranged, and the whole responsibility and care of the child thus devolved upon the mother, while she was entirely ignorant of her duties. A wet-nurse was obtained. In a very few hours after this change was effected, the screaming ceased, the child had quiet and refreshing sleep, and in twelve hours a healthy motion was passed. The child gained flesh almost as quickly as it had previously lost it, and is now a fine and healthy boy. The mother has since had two children, and proved a good nurse.

Whenever there has previously existed *any nervous or mental affection* in the parent, wet-nurse suckling is imperatively required, and with a judicious management of childhood will do much to counteract the hereditary disposition in the offspring.

The mother who only nurses her infant when it suits her convenience ought not to engage in this duty at all.—The mother who cannot make up her mind

exclusively to devote herself to the duties of a nurse and give up all engagements that would interfere with her health, and so with the formation of healthy milk, and with the regular and stated periods of nursing her infant, ought never to suckle. It is unnecessary to say why; but I think it right, for the child's sake, to add, that if it does not sicken, pine, and die, it will not have to thank its parent—and disease, in all human probability, will be generated in its constitution, to manifest itself at some future time.

The child, then, under all the foregoing circumstances, must be provided with its support from another source, and a wet-nurse is the best.

Sect. 4.—Rules for Nursing the Infant.

From the first moment the infant is applied to the breast, it must be nursed upon a certain plan: this is essential to the well-doing of the child. One of the most fruitful sources of disease in the early part of infantile life is improper management in relation to food; and a large portion of the suffering and mortality which occur during this period arises from this cause alone. Regularity, moreover is necessary to the parent's health.

The plan to be followed until the breast-milk is established.—As soon as the infant is dressed, many nurses are in the habit of dosing it with castor oil, or honey of roses and almond oil. This is objectionable on many accounts; it is quite uncalled for so early, and it may be altogether unnecessary if they only wait. The infant should at once be put quietly to sleep in a cot or bed, so situated that it shall not be exposed to draughts of cold air, and that the eyes of

the babe shall be protected from a strong light, which as yet they are unable to bear.[1] It should be allowed to repose for some hours; when the mother having also obtained some sleep, it is proper to place the child to the breast, *provided the mother has at some former time performed the office of a nurse.* This should always be done within the first four-and-twenty hours, partly to draw out and form the nipple before any hardness of the breast occurs and renders that difficult, and partly to encourage the flow of milk, for the very effort made by the infant to obtain it will in this case excite its secretion.

It has been supposed by some that the milk first secreted (the *colostrum*) is improper for the child—that it teases the bowels. The fact is, that it differs in an important quality from that which is soon after secreted; but then it is a difference which Nature has ordained and designed for a wise purpose. The bowels of the infant when born are loaded with a dark, black secretion, called meconium, of which it is essentially necessary that they should be relieved, or it proves a source of great irritation. The means for its removal are found in the aperient qualities of the colostrum, so that instead of its being injurious, it is highly necessary the child should take it. It is therefore only in those cases where the first milk of the parent's breast is not obtained, from the child being put to a wet-nurse or from any other cause, and now and then when the first milk fails to be sufficiently purgative, that the administration of a gentle aperient is justifiable. Half a teaspoonful of castor oil, repeated or not as may be necessary, is the best that can be given.

[1] Full directions are given upon this subject in the *Hints to Mothers* in the chapter on the Lying-in Room.

Occasionally from disease or some unappreciable cause, the *colostric* (purgative) character is retained by the milk for a considerable period, and the health of the infant greatly suffers. Milk in this condition will to the eye present all the usual appearances of healthy secretion, but by the microscope an important difference is very readily discovered, the nature of which it would be out of place to describe here, whilst to know the fact is important. Dr. Donné relates the following case in point:—'A young woman was confined with her second child, July 23; she was apparently very healthy. On the 1st August the milk was abundant and its aspect healthy, except that it was somewhat viscid. The child was quite healthy and well formed, but it frequently refused the breast without any appreciable cause. For twenty days after delivery the milk remained in the condition of colostrum, as above described, but its colour was normal, its consistence as in the healthy state, and externally this milk appeared as healthy as that of the wet-nurse. Eighteen days after delivery, the child had diarrhœa; the milk did not change its character; and twelve days subsequently the child died, having gradually become emaciated. The former child by the same female died at the age of five months.' Dr. Donné merely mentions this fact, without wishing to infer any necessary connection between the deaths of the children and the conditions of the mother's milk; but he justly regards the coincidence as well deserving attention.

From the mother's breast alone, then, in some cases, the child will be able from the first to derive its nourishment; but, in the majority of instances, particularly in first confinements, only in part, until the

third or fourth day after delivery. Where this deficiency exists, the infant must be supplied with an artificial diet, as like the breast-milk as can be found. This is obtained by taking either of ass's milk and boiling water equal parts—or of cow's milk one-third and boiling water two-thirds, slightly sweetening the latter mixture with loaf sugar. A few spoonfuls of one or the other of these (and the ass's milk is to be preferred) are to be given *through the sucking-bottle*, and not from the boat or spoon. This will secure the infant's stomach from repletion. It will not suck more than it requires—appetite being at this age a better guide than perhaps ever after. *The act too of sucking promotes the flow of saliva*, and its mixture with the aliment that is being swallowed, which is necessary to digestion. Attention to this point will prevent derangement of stomach, with its train of acidity, flatulence, and colic. The breast-milk being fully established, and furnished in sufficient quantity, the artificial food is to be put aside, and from this time the nourishment is to be obtained from the breast alone.

The plan to be followed until the first teeth appear.—*For a week or ten days* the appetite of the infant must be the mother's guide as to the frequency in offering the breast. The stomach at birth is feeble, and as yet unaccustomed to food; its wants, therefore, are easily satisfied, but they are frequently renewed. An interval, however, sufficient for digesting the little swallowed is obtained before the appetite again revives, and a fresh supply is demanded.

The week or ten days having expired, the infant is to be nursed until the end of the lying-in month at regular intervals of every three hours, night and day.

This will allow sufficient time for each meal to be digested, and the stomach to regain the time necessary for the digestion of the next, and tend very essentially to promote the due and healthy action of the bowels. Such regularity, moreover, will do much to obviate fretfulness, and to prevent that constant cry which it appears to the parent, and to all about her, that nothing but perpetually giving the breast to the infant can allay. This evil, indeed, generally *grows out of irregular nursing.* The young mother, considering every expression of uneasiness as an indication of appetite, runs into the very serious error of offering the breast at all times and seasons, so that frequently the child has not left the breast ten minutes before it is again put there. As a result of this injurious and dangerous practice, the food remains undigested, the stomach of the infant becomes overloaded, the bowels disordered, fever excited, and, by-and-by, the infant is seriously ill, and is, perhaps, eventually lost; when, by simply observing from the first the rules of nursing laid down, it might have continued healthy, and grown into a vigorous child. These cases of indigestion in the infant, caused by irregular and too frequent nursing, are continually occurring, and medicine is given without permanent relief, because the cause of the mischief is not obviated—it is overlooked. Fortunately, in most cases, the mother, tired of a fruitless repetition of medicine, seeks further aid; when, by simply adopting a more rational course, the child's symptoms are removed, healthy digestion restored, and no relapse occurs; this happy issue being perhaps obtained without any further exhibition of medicine.

The lying-in month having expired, it is advisable

to alter the periods of night-nursing, or rather to do away with night-nursing altogether; that is, to suckle the infant as late as ten o'clock P.M. and not put the child to the breast again until five o'clock the next morning. I am constantly in the habit of advising this measure, and I have always found it, when adopted, of great advantage to the mother's health, and never attended by the slightest injury to the child. With the latter it soon becomes a habit; to induce it, however, it must be taught early.

It is true, that where there is much delicacy and a feeble constitution, it will be necessary sometimes to postpone it a little longer. This very delicacy, however, whilst it demands a more frequent supply, calls for the greatest care in affording it, lest it be too frequent and too great in quantity. And be it remembered by the reader, that this is only an occasional exception to a most important principle, the adoption of which should never be delayed, except from paramount necessity.

Indeed, so convinced am I of the importance to the nursing mother of calm, quiet, and undisturbed repose during the night, that whenever circumstances will allow of it, I would advise that the child from this time no longer sleep in the bedroom of its parent, but in charge of its nurse. Sleep is as necessary for the restoration of strength as nourishment itself, and the deprivation of it will soon diminish and deteriorate the quantity and quality of the mother's milk, and sometimes—the cause being little suspected—will drive it away altogether. I am fully aware of the repugnance of some mothers to this measure, and that, even in the wealthiest families, where the best services can be obtained, and every convenience

exists, they are unwilling to entrust the child, that they desire should be constantly under their own eye, to a servant's care. Sooner or later, however, this change must take place, the most devoted mother must submit to it, and the peril is not greater at this time of life than at any other. The grand point is to select a proper person for this duty, and then to exercise over her an active, firm, and wise *surveillance*. This is seldom sufficiently regarded. A sensible and experienced nursemaid is the exception, not the rule. The short-sighted economy of a few pounds per annum is preferred before the services of one whose watchfulness and care over the physical and moral education of the child would repay a hundred-fold any sacrifice it might be necessary to make to obtain them. Upon this subject Dr. Donné remarks: 'I am far from approving of the habit which many mothers, full of devotion and tenderness, have of allowing their little ones to sleep in the same bed with themselves, because I am so thoroughly convinced of the necessity of undisturbed rest and sleep for all mothers who are suckling. I would strongly advise, therefore, that the infant be removed from its mother during the night, whenever this is practicable.'[1]

This course, then, is to be followed until the appearance of the first teeth (about the sixth or seventh month); and if the parent be a healthy woman, the quantity of milk supplied by the breast will generally be found sufficient to afford adequate nourishment to the child, without additional assistance from artificial food. The latter is on no account to be given (up to this period), unless, from deficiency of milk or some

[1] *Conseils aux Mères sur l'Allaitement*, p. 53.

other cause, it be positively required. If, however, after the expiration of some months, this deficiency should exist, it must be made up by the mixture of cow's milk and water, and of this alone, if it agree with the child. It must be given, too, through the sucking-bottle until the teeth appear, after which time an alteration in the kind of food, and the mode of exhibiting it, similar to that proposed below, may be adopted.

The plan to be followed after the first teeth have appeared.—When the mother, at this period, has still an abundant supply of nourishing milk, and the child is healthy and evidently flourishing upon it, I would not recommend any immediate change. The parent may, with benefit to her own health, as well as with advantage to the child, pursue the same plan as heretofore for a few weeks longer. In general, however, the mother will require some little aid at this time, and artificial food may now be given twice in the course of the day, without risk or injury to the child. Good fresh cow's milk, with the addition of water or not, as it is found to agree best; if good fresh milk cannot be obtained, then try the condensed Anglo-Swiss milk, which must be mixed according to the directions found on each tin. This milk is very pure and wholesome, and it seems to agree with some children almost better than the fresh. This milk is prepared by evaporation, and by adding white sugar in order to preserve it; so that it is already sweet enough, and simply requires the addition of hot water, Hard's farinaceous food, Robb's biscuits, Liebig's food, Mellin's extract, Nestle's milk powder, baked flour, or good well-baked bread.

As this is the first time that *artificial food* has

been particularly referred to, it is right to observe, as a general remark applicable to its use at all times, that the greatest care must ever be taken in the selection of it, in its preparation, and in the mode of giving it. In *the choice* of the food, the mother must be guided by circumstances: she must find out that which suits best; and so long as the child flourishes, she should from no trivial cause change it. The different kinds just pointed out may be tried in the order given till one is found to agree. The *mode of making* these preparations is detailed at length at page 65: this has been done because the defective manner in which artificial food is prepared is not infrequently the sole cause of its failure. It is only necessary further to observe upon this point, that the vessel in which it is made, as well as that out of which it is given, to the child, must be perfectly sweet and clean. *The quantity given* must be small, lest the stomach be overloaded, which seldom fails, after a little while, to impair its tone, and gives rise to the distressing dyspeptic symptoms before alluded to. The child must be *fed slowly*; and, minding this precaution, the sucking-bottle may now be discontinued, and the spoon used in its stead: but more full instructions upon all the foregoing points will be found in the chapter on 'Artificial Feeding.'

In about six weeks or two months after the artificial food has been in part commenced it may be given, if necessary, more frequently—three or four times in the twenty-four hours, and the breast of course less frequently. This will prepare the infant for weaning, which, under these circumstances, when the time arrives, will be easily accomplished.

Such is the plan of nursing to be followed by the

mother until the infant is weaned entirely from the breast. The period when this ought to take place, as also the manner of accomplishing it, are detailed in the last section of this chapter.

Sect. 5.—Rules for the health of the Nursing Mother.

A careful attention on the part of the mother to her own health is especially called-for during nursing. Nourishing and digestible milk can be procured only from a healthy parent; and it is against common sense to expect if a mother impairs her system by improper diet, neglect of exercise, and impure air, that she can nevertheless provide as wholesome and as suitable a milk for her child, as if she were diligently attentive to these points. Every ailment of the nurse is liable to affect the infant.

If good health has always been enjoyed, there should be no alteration in *the diet*; it should be the same as before confinement. If the natural appetite increase, the extra demand must be met by an increase in that kind of food which is wholesome, nourishing, and simple in quality, and not in that which is of a rich and pampering description. Stimulants are to be avoided, and it will be well both for parent and child to adopt a barley-milk beverage. It is a very prevalent and most mischievous error to suppose that, because a woman is nursing, she ought therefore to live fully, and to *add* an allowance of wine, porter, and other fermented liquors, to her *usual* diet. The only result of this plan is, to cause an unnatural degree of fulness in the system, which places the nurse on the brink of disease, and which of itself frequently puts a stop to,

instead of increasing, the secretion of milk. This practice of taking fermented liquors generally commences in the lying-in room. The young mother is there told that it is essential to the production of a plentiful supply of good breast-milk. And from a sense of duty this course is adopted, however disagreeable, as it really is to many, who submit to it. The advice, however well meant, is not good advice, but frequently most mischievous. Malt liquor or wine is only useful to the woman who, possessing a healthy constitution and a system free from disease, is delicate rather than robust, but who, nevertheless, with advantage to herself or without detriment to the child, may suckle. Such an individual may make a trial of wine, or of a pint of good sound ale or porter in the four-and-twenty hours, and if it is found to have a favourable effect upon her health, and not to produce discomfort or disturbance to the system, it should be persevered in. But here, as in the former cases, more good will result from the assiduous employment day by day of general measures than from any stimuli. *The bowels* must be duly regulated, and if at any time an aperient is required, the selection is not unimportant. If it be desirable to act at the same time upon the infant's bowels, a saline purgative, as Epsom or Cheltenham salts, should be taken; this, through its effect on the milk, will act on the child; if otherwise, a vegetable aperient should be chosen, as castor oil, confection of senna, or five grains of the compound extract of colocynth, with two grains of the extract of henbane, to prevent its griping.

I need scarcely remind the nursing parent of the importance of attending to *the state of the skin*, and of the invigorating effects of *the tepid or cold salt-water*

shower bath, taken every morning upon rising. If the latter cannot be borne, *sponging* the body with tepid or cold salt water must be substituted. *Exercise and fresh air* are essential to the production of good and nourishing breast-milk, as they also contribute to increase the quantity secreted. No one can have seen much practice in this metropolis, and not have been fully convinced of this fact. Wet or fine, if the mother be in good health, she should take the daily walk. The injurious influence of an indulgence in *late hours*, night or morning, and the luxuries and dissipation of high life, will soon become manifest. Such habits not only lessen the mother's attention to her offspring, but really diminish her power of affording it nourishment; so that she is often a worse mother in these respects than the inhabitant of the meanest hovel.

A tranquil temper, and a happy, cheerful disposition, tend greatly to promote the production of healthy milk. Indeed, there is no secretion of the human body that exhibits so quickly the injurious influence of the depressing emotions as that of the breast. And although we are not able at all times to detect by any agent we possess the changes which take place in its physical properties, so delicate an apparatus for testing its qualities is the digestive system of the infant, that it will sometimes instantly show that such changes have occurred, by the serious symptoms which now and then arise. I might cite many instances that I have met with illustrative of this fact. In one case, the child had had repeated fits of convulsions from noon of the previous day; the parent had been suddenly summoned to her mother, attacked with apoplexy; anxious and excited, she gave the child the breast, and within half an hour the convulsions commenced—

other breast-milk was suggested and obtained, and the fits ceased; all the previous measures had been unsuccessful. In another instance convulsions occurred evidently from disorder of the breast-milk, but the source of derangement was not discovered until a few weeks after, when it appeared that on the morning of the day when the child was attacked, the mother was made acquainted with the deranged condition of her husband's affairs. *Fear* has a powerful influence on the secretion; first changing its properties, and then frequently stopping the secretion altogether. I was sent for to an infant between two and three months old in an attack of convulsions, so severe as to threaten a fatal termination. This child I had seen at the same time the day before sucking at the breast of its wet-nurse in perfect health, never having had a moment's illness. It had shown the first symptoms of indisposition the previous night after the nurse had retired to rest: when, having been at the breast, it became restless, crying frequently, evidently from pain. In the course of the night the bowels were violently purged; towards morning the stomach could not retain the milk; and as the day advanced the general symptoms of uneasiness increased, and in the afternoon the convulsions above referred to came on. Upon inquiry I found the father of the young nurse had called on the previous evening, and not only violently abused his daughter, but had struck the poor girl, he being under the influence of liquor at the time. This interview produced such mental distress in the young woman as to attract the attention of her mistress, when an explanation of the cause ensued. Strict orders were given to forbid the man the house for the future; but the mischief was done; for it was too evident that the

alarming state of the child had been produced by the deleterious change which had taken place in the nurse's milk. Remedial measures were used; the breast-milk withheld; and the infant, although it continued for many days in a doubtful state, eventually recovered; the young woman's milk, however, was altogether driven away, and another wet-nurse was obliged to be obtained without delay.

Perhaps the most remarkable instance on record of the effect of strong mental excitement on the secretion of the breast, is one mentioned by Dr. Von Ammon; so remarkable that the event could hardly be regarded as more than a simple coincidence, if it were not borne out by the less striking but equally decisive facts already mentioned. 'A carpenter fell into a quarrel with a soldier billeted in his house, and was set upon by the latter with his drawn sword. The wife of the carpenter at first trembled with fear and terror, and then suddenly threw herself furiously between the combatants, wrested the sword from the soldier's hand, broke it in pieces, and threw it away. During the tumult, some neighbours came in and separated the men. Whilst in this state of strong excitement the mother took up her child from the cradle where it lay playing, and in the most perfect health, never having had a moment's illness; she gave it the breast, and in so doing sealed its fate. In a few minutes the infant left off sucking, became restless, panted, and sank dead upon its mother's bosom. The physician who was called in found the child lying in the cradle as if asleep, and with its features undisturbed; but all his resources were fruitless. It was irrecoverably gone.' The milk in this striking case must have undergone a change which gave it a powerful sedative action upon the sus-

ceptible nervous system of the infant. *A fretful temper* will lessen the quantity of milk, make it thin and serous, and cause it to disturb the child's bowels, producing fever and griping. *Fits of anger* produce a very irritating milk, followed by griping in the infant, with green stools. *Grief* or *anxiety of mind* often so diminish the secretion as to render other aid necessary for the sustenance of the child. *Fear* and *terror* would seem to produce a powerful sedative effect upon the milk, as proved in Von Ammon's case just quoted, and which in a minor degree I have noticed elsewhere. A knowledge of these facts ought to act as a salutary warning to a mother not to indulge in, but carefully to guard against, either the exciting or depressing passions.

The quantity and quality of the breast-milk may be affected by other causes. Sometimes *the monthly periods* return while the mother still continues a nurse. This occurrence much impairs the milk in its probable duration, and more or less in its properties at the period itself. The infant sometimes becomes unusually fretful, brings up the milk, and has frequent watery motions, more or less of a spinach-green colour. If this take place early after delivery, it will in most cases so alter the qualities of the milk as seriously to affect the health of the child, and oblige the mother to transfer it to a wet-nurse. But if it do not occur until the sixth or seventh month, no inconvenience of importance will generally arise. As a general rule, the breast must be withheld from the child as much as possible during its continuance, and artificial food substituted.

The taste and qualities of the milk are easily affected *by diet*. If the mode of living be full and

luxurious, the milk may become too rich, having too large a quantity of cream, but without being otherwise altered in its character. The remedy is simple enough: purgative medicine, once or twice—plenty of active exercise, and a more spare diet in future. On the other hand, women who labour hard, provided they are well nourished, have abundance of milk; but if their food be scanty in quantity and poor in quality, they soon sink under fatigue and lose their milk. In London, severe attacks of diarrhœa occur in infants at the breast, fairly traceable to *bad porter*. I was called to see an infant at the breast with diarrhœa. The remedial measures had but little effect, so long as the infant was allowed the breast-milk; but this being discontinued, and artificial food substituted, the complaint was quickly put a stop to. Believing that the mother's milk was impaired from some accidental cause which might now be past, the infant was again allowed the breast; in less than four-and-twenty hours, however, the diarrhœa returned. The mother being a very healthy woman, it was suspected that some unwholesome article in her diet might be the cause; the regimen was accordingly carefully inquired into, when it appeared that porter from a neighbouring publican's had been substituted for their own for some little time past. This proved to be bad—throwing down, when left to stand a few hours, a considerable sediment; it was discontinued; good sound ale taken instead; the infant again put to the breast—upon the milk of which it flourished, and never had another attack. Sometimes the breast-milk has a decidedly saline taste; at other times bitter, so that the child (to the astonishment and vexation of the parent, who does not suspect the cause) will turn away from the breast in disgust. In all these

cases it will more or less disorder the child; and hence the importance of attention to the diet; particularly the avoidance of salads, pickles, sour fruit, cucumbers, melons, acids, and the like.

Medicines will often affect the milk, and in a very striking manner. This has already been alluded to when speaking of aperients, and beyond this does not concern us here, although a very important use is made of the fact in attempting the cure of serious disease which sometimes occurs both in mother and child.

If *pregnancy* take place with the nursing mother, it will so affect the milk as to render suckling injurious to the child. If it occur in the early months, a wet-nurse ought to be obtained.

A deficiency of milk will, in some mothers, exist from the earliest weeks after delivery. If this is not quickly remedied by the means already pointed out, a wet-nurse must be obtained. It will be of no avail partially to nurse and partially to feed the infant at this period, and under such circumstances; for if it is not soon lost, it will only live a few months, and be a constant object of anxiety and grief to its parent. The constitution of the mother, in this case, is frequently unhealthy, and the condition into which the child is brought arises from the unwholesomeness of her milk. Women who marry comparatively late in life, and bear children, generally have a deficiency of milk after the third or fourth month: artificial feeding must in part be here resorted to.

Many mothers give themselves unnecessary fatigue in suckling from the awkward manner in which they hold the child. Until it is old enough to sit while suckling, or the mother is accustomed to raise the child cleverly in her arms to the breast, it is best for her to

lie down when the infant has occasion to suck. At all times, if in bed, the child should take the breast as it lies, and not incommode the mother by obliging her to sit up in bed. When up and nursing, the mother should sit upright and raise the child to her breast, and not bend forward to suckle the infant in her lap. This greatly tires and fatigues the mother, and causes severe pain in her back, without in any degree relieving the child.

Again, a parent should avoid giving one breast more frequently than the other: the infant should be applied to each in its turn. If this is not done, and one breast is sucked more than the other, it becomes much larger than its fellow, and the secretion of milk is not equally promoted in each breast. There is danger, also, if suckled upon one breast only, of the child contracting the habit of squinting, from having its eyes constantly directed to one side. It may also become somewhat crooked, growing unequally, one side of the body not being so muscular as the other.

For direction upon sore nipples, uncontrollable flow of the milk, and milk abscess, the reader is referred to 'Hints to Mothers.'

Sect. 6.—The injurious effects, to the Mother and Infant, of undue and protracted Suckling.

As already observed, the period of suckling is, ordinarily, one of the most healthy of a woman's life. But there are exceptions to this as a general rule; and nursing, instead of being accompanied by health, may be the cause of its being materially, and even fatally, impaired. This may arise out of one of two causes: either a parent continuing to suckle too long—or, from the original powers or strength not being

equal to the continued drain on the system. Examples of the first class are met with daily. I refer to poor married women, who nurse their infants eighteen months, two years, or even longer than this, from the belief that by so doing they will prevent pregnancy. The consequences are a state of exhaustion and disorder of the general health, which often leads to most alarming maladies. The second is most frequently met with in the delicate woman, who, having had two or three children in quick succession, her health suffers, and she has all the symptoms arising from undue suckling, when perhaps the infant at her breast is not more than two or three months old.

Since the health of the mother can be impaired by suckling, she ought not to be in ignorance of the fact; so that she may be able to recognise the first symptoms, and obtain medical advice before her health be seriously affected.

The *earliest symptom* is a dragging sensation of the back when the child is in the act of sucking, and an exhausted feeling of sinking and emptiness at the pit of the stomach afterwards. This is soon followed by loss of appetite, costive bowels, and pain on the left side. Then the head will be more or less affected; sometimes with much throbbing, singing in the ears, and always some degree of giddiness, with great depression of spirits. Soon the chest becomes affected, and the breathing is short, accompanied by a dry cough, and palpitation of the heart upon the slightest exertion. As the disease advances, the countenance becomes very pale, and the flesh wastes, and profuse night perspirations, great debility, swelling of the ankles, and nervousness ensue. I have known the retina so weakened as to produce blindness for a time.

Dr. Carpenter relates cases of this kind in his 'Elements of Physiology.' He speaks of them as 'debility of the retina, sometimes proceeding to complete amaurosis.'[1] It is unnecessary, however, to enter into a more full detail of symptoms.

All that it will be useful to say in reference to *treatment*, is this: that although much may be done in the first instance by medicine, change of air, cold and sea bathing, yet the quickest and most effectual remedy is to wean the child, and thus remove the cause.

There is another and equally powerful reason why the child should be weaned, or rather have a young and healthy wet-nurse, if practicable. *The effects upon the infant*, suckled under such circumstances, will be most serious. Born in perfect health, and having continued so up to this period, it will now begin to fall off in its appearance; for the mother's milk, both in respect of quantity and quality, will no longer afford due nourishment. Its countenance will become pale, its look sickly and aged, the flesh soft and flabby, the limbs emaciated, the stomach large, and the evacuations offensive and unnatural. And, in a very few weeks, the blooming healthy child will be changed into the pale, sickly, peevish, wasted creature, whose life appears hardly desirable. The only measure that can save the life, and recover an infant from this state, is that which previously would have prevented it—a healthy wet-nurse. If the effects upon the infant should not be so aggravated as those just described, and it subsequently live and thrive, there will be a tendency in such a constitution to scrofula and consumption, manifesting itself at some future period of

[1] Carpenter's *Physiology*. Seventh edition, p. 921.

life, undoubtedly acquired from the parent, and dependent upon the impaired state of her health at the time of its suckling. A wet-nurse early resorted to will prevent this.

It will be naturally asked, for how long a period ought a mother to suckle her child? The answer to this question will entirely depend on circumstances; supposing both mother and child are healthy, then we should say that *nine* or *ten months* is about the proper time. But there are many reasons which may render it desirable either to shorten or prolong this period in individual cases, and these exceptions will be fully alluded to in the course of the work. We may here briefly say, that a weakly mother would herself suffer by suckling so long, consequently her milk would be less wholesome and nutritious, and as a result her child would become flabby and pale and weakened. This remark will give the key to the whole subject, and we leave it to the common-sense judgment of an ordinary woman to act accordingly. Whenever there is doubt or difficulty—consult your medical adviser.

The monthly periods generally reappear from the twelfth to the fourteenth month from delivery; and when established the milk is found invariably to diminish in quantity, and also to deteriorate in quality: under these circumstances there will be no choice; the child must be weaned. If it be exceedingly delicate, a wet-nurse must be procured, and one, if possible, about three months after confinement.

Sect. 7.—Weaning.

At what time.—The time when weaning is to take place must ever depend upon a variety of circumstances which will regulate this matter, independently

of any general rule that can be laid down. The mother's health may, in one case, oblige her to resort to weaning before the sixth month, and, in another instance, from the delicacy of the infant's health, to delay it up to or beyond the twelfth. Nevertheless, as a general rule, both child and parent being in good health, weaning ought never to take place earlier than the ninth (the most usual date), and never be delayed beyond the tenth month.

I should say further, that if child and parent are both in vigorous health, if the infant has cut several of its teeth, and been already accustomed to be partially fed, weaning ought to be gradually accomplished at the ninth month. On the other hand, if the child is feeble in constitution, the teeth late in appearing, and the mother is healthy and *has a sufficient supply of good milk*, especially if it be in the winter season, it will be far better to prolong the nursing for a month or two. In such a case, the fact of the non-appearance of the teeth indicates an unfitness of the system for any other than the natural food from the maternal breast. It should never be effected while the child is suffering under the irritation of teething; it will derange the bowels, and perhaps induce convulsions. And again, if the infant be born of a consumptive parent, and a healthy and vigorous wet-nurse has been provided, weaning should most certainly be deferred beyond the usual time; carefully watching, however, that neither nurse nor child suffer from its continuance.

The mode.—It should be effected gradually. From the sixth month most children are fed twice or oftener in the four-and-twenty hours. The infant is in fact, therefore, from this time in progress of weaning; that is to say, its natural diet is partly changed for an

artificial one, so that when the time for *complete weaning* arrives, it will be easily accomplished, without suffering to the mother, or much denial to the child. It is, however, of the greatest importance to regulate the quantity and quality of the food at this time. If too much food is given (and this is the great danger), the stomach will be overloaded; the digestive powers impaired; and if the child is not carried off suddenly by convulsions, its bowels will become obstinately disordered; it will fall away from not being nourished, and perhaps eventually become a sacrifice to the over-anxious desire of the parent and its friends to promote its welfare. The kind of food proper for this period, and the mode of administering it, are detailed in the section on 'Artificial Feeding.'

Much exercise in the open air (whenever there is no dampness of atmosphere) is highly necessary at this time; it tends to invigorate the system, and strengthens the digestive organs, and thus enables the latter to bear without injury the alteration in diet.

Drying up the milk.—It may be necessary to dry up or 'backen the milk,' as it is popularly called, *directly after delivery*,—from the delicate health of the mother, from local defect—the nipple, for instance, being too small or obliterated by the pressure of tight stays,—or from death of the infant, or some equally urgent cause.

Now it is a very frequent practice to apply cold evaporating lotions to the breast for this purpose. It is true they may produce a rapid dispersion of the milk: but they ought never to be resorted to, as they frequently give rise to symptoms of an alarming and dangerous character. The best and safest local application consists in the following liniment:—*Compound*

soap liniment, three ounces; laudanum, three drachms; camphor liniment, one drachm. Or, if this is found too irritating, *compound soap liniment* alone. Either of these liniments must be applied warm and constantly, by means of a layer or two of linen or flannel, covered by a piece of oiled silk; and the breast gently pressed or rubbed for five or ten minutes every four or five hours, with warm almond oil.

Sometimes the skin is so thin and sensitive that even the compound soap liniment proves too stimulating, and covers the breast with an irritable eruption. In these cases bread-and-water poultices must be substituted, but the warm almond oil must also be used, as directed in the former instances.

While the breasts remain only moderately hard, easy, and but little distended with milk, they must not be emptied; for this would encourage further secretion, and they would soon fill again. If, however, they become very hard and painful, and give much uneasiness from their distension, they must be *partially* emptied, so as just *to relieve the distension*—nothing more; and this is to be repeated as often as is absolutely necessary. A gentle saline aperient should be taken every morning, and, if necessary, at night, the object being to keep the bowels slightly relaxed. The diet must be very scanty, and solid nourishment only taken. If, however, the thirst is distressing, it must be allayed by frequently washing out the mouth with toast and water; and an orange or two, or a few ripe grapes, may be taken in the course of the day. Following up this plan, the distress arising from the extreme distension of the breasts, if present, will be removed; although several days will transpire before the milk is thoroughly dispersed, or the remedies can

be discontinued; and a sensation described by women as of 'a draught of milk' in the breasts will sometimes be felt two or three times a day for weeks afterwards.

In reference to drying up the milk *at the time of weaning*, from the circumstance of the child being partially fed for some time before it is completely weaned, the mother will experience little trouble in dispersing it. She must, however, not neglect to take opening medicine, not only to assist the foregoing object, but also to prevent that depression of spirits, lassitude, loss of appetite, and general derangement of health, which so frequently follow weaning, when these medicines are omitted. If the breasts should continue loaded, or indeed painfully distended, the aperient must not only be used to keep the bowels gently relaxed, but the diet must be diminished in quantity, and solid nourishment only taken. The breasts, too, if painfully distended, must be occasionally drawn, but only just sufficiently to relieve the distension; they must also be rubbed for five or ten minutes, every four or five hours, with the following liniment previously warmed: —*Compound soap liniment, one ounce and a half; laudanum three drachms.*

CHAPTER II.

OF WET-NURSES.

Sect. 1.—Choice of a Wet-nurse.

Ill health and many other circumstances may prevent a parent from suckling her child, and render a wet-nurse necessary. Now, although she will do wisely to leave the choice of one to her medical attendant, still, as some difficulty may attend this, and as most certainly the mother herself ought to be acquainted with the principal things to be attended to in the selection of a good nurse, it will be well to point out in what they consist.

The first thing to which a medical man looks is the general health of the woman : next the condition of her breast—the quality of her milk—its age and her own ; whether she is ever unwell while nursing ; and, last of all, *the condition* and *health of the child.*

Is the woman in good health?—Her general appearance ought to betoken a robust constitution, free from all suspicion of a strumous character or *any hereditary taint* of syphilis, consumption, cancer, and the like ; her tongue should be clean and firm, her digestion good ; her teeth and gums sound and perfect, and her skin *free from eruptions* ; her breath sweet. Inquire as to the condition of her health during her

pregnancy. Avoid a wet-nurse who has any tendency to miscarriages. If possible, see her husband also, and be sure that he is and has been a steady, well-conducted man.

What is the condition of her breast?—A good breast should be firm and well-formed; its size not dependent upon a large quantity of fat, which will generally take away from its firmness, giving it a flabby appearance, but upon its glandular structure, *which conveys to the touch a knotted, irregular, and hard feel;* and the nipple must be perfect, of moderate size, but well developed.

What is the quality of the milk?—It should be thin, and of a bluish-white colour; sweet to the taste; and when allowed to stand, should throw up a considerable quantity of cream. Dropped in water, it should form a light cloudy appearance, and not sink at once to the bottom in thick drops.

What is its age?—If the lying-in month of the patient has scarcely expired, the wet-nurse to be hired ought certainly not to have reached her second month. At this time, the nearer the birth of the child, and the delivery of its foster-parent, the better. The reason for which is, that during the first few weeks the milk is thinner and more watery than it afterwards becomes. If, consequently, a newly-born infant be provided with a nurse who has been delivered three or four months, the natural relation between its stomach and the quality of the milk is destroyed, and the infant suffers from the oppression of food too heavy for its digestive power. In fact, it has been observed to be very injurious. On the other hand, if you are seeking a wet-nurse for an infant of four or five months old, it would be very prejudicial to transfer the child to a woman

recently delivered; the milk would be too watery for its support, and its health in consequence would give way.

The nurse herself should not be too old.—A vigorous young woman from twenty-one to thirty admits of no question. And the woman who has had one or two children before is always to be preferred, as she will be likely to have more milk, and may also be supposed to have acquired some experience in the management of infants.

Inquire whether she is ever unwell while nursing? If so, reject her at once. You will have no difficulty in ascertaining this point; for this class of persons have an idea that their milk is *renewed*, as they term it, by this circumstance, monthly; and, therefore, that it is a recommendation, rendering their milk fitter for younger children than it would otherwise have been. It produces, however, quite a contrary effect; it much impairs the milk, which will be found to disagree with the newly-born child, rendering it fretful from the first. After a time it is vomited up, and produces frequent watery dark-green motions.

Last of all, **what is the condition of the child?**—We would particularly advise that a medical man should examine the proposed wet-nurse's baby: for the *appearance of health* does not suffice. Particularly reject the mother of any child with skin eruptions, or a tendency to cold in the head (called snuffles). It ought to have a sprightly appearance—to bear the marks of being well-nourished, its flesh firm and clear. It should be examined in this respect particularly about the head, neck, and buttocks—also its mouth and gums.

If a medical man finds that both mother and child

answer to the above description, he has no hesitation in recommending the former as likely to prove a good wet-nurse.

The principal points which the parent must investigate for herself (independently of the medical attendant's inquiries) have reference to *the moral qualifications* of the applicant; and if there is found to be any defect here, however healthy or otherwise desirable, her services ought to be declined. Temperance, cleanliness, a character for good conduct, fondness for children, and aptness in their management, are among the most important requisites. An amiable disposition and cheerful temper are also very desirable; for of course the remarks made in the preceding chapter on the injurious influence of mental disturbance on the breast-milk of the parent apply with equal force to that of the wet-nurse.

It is unnecessary to allude to other qualities which a woman who is sought as a wet-nurse should possess; they will naturally suggest themselves to any thoughtful mind.

Sect. 2.—Diet of a Wet-nurse.

The diet should not differ much from that to which the individual has been accustomed; and any change which it may be necessary to make in it should be gradual. It is erroneous to suppose that women, when nursing, require to be much more highly fed than at other times: a good nurse does not need this, and a bad one will not be the better for it. The quantity which many nurses eat and drink, and the indolent life which they too often are allowed to lead, have the effect of deranging their digestive organs, and frequently induce a state of febrile excitement, which

always diminishes, and even sometimes altogether disperses, the milk. It will be always necessary for the mother to be watchful lest the wet-nurse overload her stomach with a mass of indigestible food and drink. She should have a wholesome mixed animal and vegetable diet, and a moderate quantity of malt liquor, *provided* it be found necessary.

As I have before said, a very prevailing notion exists that porter tends to produce a great flow of milk. In consequence of this prejudice, the wet-nurse is often allowed as much as she likes; a large quantity is in this way taken, and after a short time so much febrile action excited in the system, that, instead of increasing the flow of milk, it diminishes it greatly. Sometimes without diminishing the quantity, it imperceptibly but seriously deteriorates its quality. For instance: a wet-nurse became necessary for an infant of two months old, and a healthy young woman was obtained. At first the nurse's milk seemed to suit the child, and everything went on well for three weeks. At this time I was sent for, the infant having had diarrhœa for three or four days, with green motions and occasional vomiting. I looked for the cause, and, amongst other inquiries, to the health of the nurse. I was told that she was in perfect health; but perceiving that she looked ruddier and more full in the face than heretofore, I inquired about the quantity of beverage allowed, and found it exceeded two pints of porter daily. I then prescribed—for the infant, no medicine; for the nurse, one pint of porter only. As the patient lived some little distance from town, I did not see the child for three days: it was then somewhat better, but still not well. I directed the malt liquor to be discontinued altogether, and the nurse to have the shower-

bath every morning, and plenty of out-door exercise. In three days more the infant was perfectly well, and the nurse had still an ample supply of milk, which now agreed with and nourished the child.

As *a general rule*, porter, wine, or any stimulant is quite as unnecessary for the wet-nurse as for the nursing mother, if she be in sound and vigorous health. There may be cases benefited by the moderate use of malt liquor, but these are the exceptions. If taken, three half-pint tumblers are as much as any nurse ought to be allowed; and if she require more, *either it will be injurious, or she is unfit for her office.* I very much suspect that the process of teething in some cases is rendered painful and difficult by the stimulant taken by the nurse; the child in fact pays in suffering for the pampering of the nurse.

Sect. 3.—General Directions.

The nurse should take exercise daily in the open air; nothing tends more directly to maintain a good supply of healthy milk, and the best wet-nurse would soon lose it, if constantly kept within doors. Sponging the whole body with cold water with bay salt in it, every morning, should be insisted upon, if possible: it preserves cleanliness, and greatly invigorates the system. United with this the nurse should rise early, and also be regularly employed during the day in some little portion of duty in the family, attendance on the wants of the child not being alone sufficient.

For some time after the wet-nurse enters upon her duties, the mother should closely superintend her management of the child; more or less this will be advisable throughout the whole period of the wet-

nurse's suckling, but it will be particularly called for until the nurse has deservedly secured the mother's confidence and respect. If the nurse has been judiciously chosen, there is no doubt she will endeavour to act conscientiously and rightly; but it is too much to expect, remembering the station of life from which she has been taken, that she will possess the necessary knowledge. Indeed, if she has had children previously, you will most probably have to combat with many existing prejudices, which will render such vigilance and superintending care the more necessary. Give from day to day the instructions required, and go frequently and unexpectedly to the nursery and see that your directions are scrupulously regarded, and with that cheerfulness and tenderness which alone can and ought to satisfy a mother.

It will be well to add two or three cautions which have immediate reference to this class of persons. As the months advance, it may happen that the nurse's milk becomes insufficient for the demands of the child; and, unless she be a woman of good principles, there will be a danger of her hiding this circumstance from the parent, lest she should lose her situation, and she will secretly supply the deficiency with some artificial food, made in secret, and therefore badly, unfit for the child, and quickly causing suffering and disturbance to its system. On the other hand, a very healthy and very ignorant woman, with a great abundance of milk, is now and then met with, whose great aim will be to make the child as fat as possible; and she will not only urge the child to take breast-milk all day long, but give artificial food too, and sometimes even a portion of her own beverage, malt liquor. As a consequence, either the child's stomach rebels against this extraor-

dinary system of repletion, and constantly vomits up the over supply, having, it may be, repeated attacks of diarrhœa, which after a while seriously affect its health—or the wishes of the nurse are realised, and the child does become excessively fat, and is placed thereby on the brink of disease; under such circumstances, the chances of recovery are greatly diminished. Again, the monthly periods in these nurses will sometimes after a while reappear, deteriorating the quality and diminishing the quantity of the milk—a result of which they are generally aware, and therefore they often attempt to conceal the fact. The course to be taken will depend upon the date when this function recurs: if it be early in the nursing, the child being yet very young, will be sure to suffer, and the nurse must be changed;—but if it does not take place until the seventh or eighth month is passed, it will scarcely affect the child, and all that will be required will be to keep it as much as possible from nursing while the woman continues unwell, substituting for the breast-milk artificial food.

A wet-nurse should never be allowed to have medicine of any kind at her command to administer to the child whenever she may think fit: and it is right that a parent should be aware that an unprincipled woman will give laudanum in one or other of its preparations to quiet a restless child and secure for herself a good night's repose. If it should at any time happen that the nurse's rest is disturbed from this cause, the exhaustion which is naturally felt the following day must not be met by the frequently adopted remedy of an extra supply of porter, *but by rest*; she must be allowed to lie down for an hour or so, the nurse-maid taking charge of the child in the interval. Sleep will

restore the strength, and thus increase the amount and improve the quality of the breast-milk, while the stimulant would injure both.

When there are children already in a family there is danger in many ways of the wet-nurse deranging the order of the nursery. The mother should at the first assign her place and duties, and see that she keeps the one and performs the other. If there is an upper nurse, the wet-nurse in a certain sense must be her assistant, and take the second place, as it is termed. She will always do her duty to the baby, for her affections will quickly become engaged; but there will be an unwillingness to conform to nursery regulations, unless enjoined from the first, which may cause great discomfort, and have a bad influence upon the children. If the tone and manner in which injunctions are given imply both firmness and kindness, the willing co-operation of the wet-nurse may be secured, who must not be looked on merely as a living dairy, without love of esteem or desire of approbation.

CHAPTER III.

ARTIFICIAL FEEDING.

Extreme delicacy of constitution, diseased condition of the frame, defective secretion of milk, and other causes, may forbid the mother suckling her child; and unless she can perform this office with safety to herself and benefit to her infant, she ought not to attempt it. In such case, a young and healthy wet-nurse is the best substitute; but even this resource is not always attainable. Under these circumstances the child must be brought up on an artificial diet—'by hand,' as it is popularly called. To accomplish this, however, with success, requires the most careful attention on the part of the parent. It is at all times attended with risk, particularly in large cities.

Now it cannot be too well known that a very large proportion of the children who die within the first year of life, are those which have been brought up 'by hand,' and hence whenever this method becomes absolutely necessary, the very greatest care and judgment are required. Dr. West[1] says: 'Much care, much patience, and judicious management in all respects, may indeed counteract the otherwise inevitable evils that result from the attempts to bring up

[1] *The Diseases of Infancy and Childhood.* Sixth edition.

infants by hand.' Elsewhere he points out that all the mortality is not due to the *mere* fact of artificial food, but to the fact, that when the mother does not suckle her child, it is often left to the care of a stranger, and its artificial food, instead of being made by the mother, is prepared by one who lacks the mother's instinct and the mother's love. Remarks such as these, coming as they do from an authority like Dr. West, must be carefully weighed and considered. They teach an important lesson. It is this —that a mother should herself superintend the dietetic management of the child, especially during the early months. The following rules must be strictly observed :—

Sect. 1.—The Food suitable until the first Teeth appear.

The kind of artificial nourishment most suited to the infant will be that which is most like the breast-milk, viz. the milk of animals : the ass, the cow, the ewe, and goat. The milk of the cow is in most familiar use, and the ass next ; but all are employed more or less for the above purpose, in various parts of the world. The milk of all animals is composed of the same ingredients, but their proportions vary considerably—a fact of much practical importance in guiding our selection and preparation of it as food for children, when good human milk cannot be obtained. In general terms, milk may be said to contain all the elements required for the maintenance and development of the life of the young animal, viz. 1. Casein or cheese, which affords matter for nutrition and growth ; 2. Butter, which supplies fat, and united

with, 3. Sugar, yields the carbon and hydrogen which produce animal heat by their combustion; and, 4. Saline matters, necessary for the development of the osseous system. The relative proportions of the different ingredients in the milk of various animals, in 100 parts, are as follows :

	Milk of the				
Constituents	Woman	Ass	Cow	Ewe	Goat
Casein . .	2·50	1·82	4·48	4·50	4·02
Butter . .	5·18	0·11	3·13	4 20	3·32
Sugar of milk	6·52	6·08	4·77	5·00	5·28
Various salts		0·34	0·60	0·68	0·58
Water . .	85·80	91·65	87·02	85·62	86·80

From this table it will be seen that no milk more nearly approaches that of a woman than the sheep and goat. Both possess, however, a larger proportion of casein, which forms a very dense curd, and the milk of the goat is tainted with the peculiar odour of the animal—both circumstances objectionable : the one, making the milk difficult of digestion to the child, and the other disagreeable to it. The same remark in reference to casein applies to the milk of the cow, but it does not possess so much butter, and by dilution may be brought to answer very well for infants' food. In some respects, however, there is a greater similarity between the milk of the woman and that of the ass, and in the early months accordingly we find it the most suitable artificial food that can be chosen. Human milk is alkaline, and if kept for a considerable time shows but little tendency to become sour. The milk of the healthy animals is also alkaline, but is quickly affected by slight causes, so that if the cow be shut up and stall-fed, its milk very soon acquires a strongly acid property—the source of a

large number of the cases of indigestion and bowel disorder so prevalent in children brought up in large towns.

When ass's milk is employed, for the first ten days it should be mixed with an equal part of boiling water; no sugar is necessary; as this exists in abundance, as the table shows. When the ten days have expired, two-thirds milk and one-third water will be the proportions; and a few weeks later the milk should be pure. It must be given at the same temperature as the breast-milk, viz. from 96° to 98°: this is best effected by always adding the water in a boiling state, and when the latter is discontinued, by placing the milk in boiling water. In hot weather care must be taken that the milk is not affected by it; and when practicable it should be given warm from the animal. It should never be mixed with the water till wanted, and no more made than will be taken by the child, for it must be prepared fresh at every meal. If convenience will permit, an ass should be kept for the child; the foal muzzled, and the forage of the mother carefully attended to, or its milk will disagree with the infant. If this plan cannot be adopted, then, if possible, the animal should be brought to the door of the house night and morning, and there milked.

Cow's milk in the early weeks is objectionable from the large proportion of casein it contains. If, however, it is used, for the first ten days one-third cow's milk and two-thirds boiling water are the proportions, sweetening the mixture with a small quantity of loaf-sugar, as sugar is rather deficient in this milk. Then for the next four or five months, equal parts of milk and water, and at the expiration of this time, which brings us to about the sixth month, pure

milk. The same care in preparing this food must be observed as with the ass's milk. In large cities it is a difficult thing to obtain pure and wholesome cow's milk. Much of it is supplied from cows which, fed in stalls, never breathe the pure air, and becoming diseased (scrofulous matter is found deposited in their lungs), they produce unhealthy milk—or if it comes from the outskirts of the city, however pure and wholesome when drawn from the udder, it is afterwards so diluted with water, and adulterated with starch, flour, chalk, and other substances, as to render it almost as innutritious and unwholesome as the diseased milk itself. Both are most unfit for the delicate and susceptible stomach of the infant. There is no doubt that this circumstance is the fruitful source of disordered health to children artificially fed in large cities, and, with a deficiency of pure air, of the great mortality which takes place in the early months.

Lately, with a view to increase the supply of good milk, a method of condensing and preserving it has been discovered. The best is that prepared by the Anglo-Swiss Company. It is sold in hermetically-sealed tins, which keep for any length of time. When opened the milk keeps good for four or five days. This is an excellent substitute for indifferent fresh milk; it has been said that it only fattens a child, without giving any real strength, but we do not think that the assertions have been proved; on the contrary, we have seen many children thrive on it, with whom nothing beforehand had seemed to agree.

It is hardly necessary to allude again to the milk of the *goat* and *ewe*; they are both much employed in other countries, but seldom in this. In quality they are richer than any other, and require in the early

weeks of the child's life considerable dilution, with a small addition of sugar.

Milk, then, much diluted in the early weeks, and less and less so as they advance, accommodating the strength of the aliment to the increasing digestive powers of the infant, forms the best artificial diet that can be given until two or three teeth are cut. Children nourished exclusively upon this simple food will be found to enjoy more perfect health, and thrive far better, than upon any other diet that can be given. Unfortunately, this is not the popular belief, and in the earliest days of the child, mothers are too much in the habit of giving thick gruel, panada, biscuit food, and such matters, thinking that a diet of a lighter and thinner kind will not nourish. This is a great mistake, for these preparations are much too solid ; they overload the stomach, and cause indigestion, flatulence, and griping. These create a necessity for purgative medicines and carminatives, which again weaken digestion, and, by unnatural irritation, perpetuate the evils which rendered them necessary. Thus many infants are kept in a continual round of repletion, indigestion, and purging, with the administration of cordials and narcotics, who, if their aliment were in quantity and quality suited to their digestive powers, would need no aid from physic or physicians.

It will occasionally happen, however, that every kind of milk disagrees with the stomach of the child. In such a case it will be best to try Liebig's chemical food. It was suggested by the great chemist, and was so compounded as to represent human milk as regards the relation of the nitrogenous and non-nitrogenous constituents. It is quite a mistake to give arrowroot, rice, or sago ; because the child's stomach is quite un-

able to digest and assimilate these latter substances. It has been shown by Dr. Sonsino,[1] that starchy matters are not digested until the completion of the first year of life. In the first weeks the food must be very thin, the consistence of cream, and always passed through a fine sieve before it is poured into the sucking-bottle; and afterwards, if animal broths form part of the diet, its effect upon the system must be watched; for it must always be kept in mind that, before the first teeth are cut, the exhibition of this diet forms the exception and not the rule to the plan ordinarily to be pursued.

The mode of administering the food.—There are two ways—by the spoon, and by the nursing-bottle. The first is objectionable at this period, inasmuch as the power of digestion in infants is very weak. In the natural mode of nourishment, by repeated acts of sucking, provision is made for the *slow* introduction of food into the stomach of the child. In this act a great quantity of saliva is secreted, which, mixing with the milk, passes down into the stomach, and there greatly aids digestion. This process of nature, then, is to be emulated as far as possible; and for this purpose the food should be imbibed by suction from a nursing-bottle: it is thus obtained slowly, and the suction employed secures the mixture of a due quantity of saliva. The flat glass nursing-bottle is too well known to need description. It should be of glass, that, being transparent, we may be assured of its perfect cleanliness—that the amount of food taken at each meal may be accurately measured—that the nurse may see that it is not taken

[1] On the Physiological Dyspepsia from Starchy Food in Infancy.—(*The Practitioner.*)

too fast, and when the bottle is emptied, that she may no longer allow the child to suck. The narrow neck of the bottle, which is about the size of the nipple, with a small orifice, is covered by an artificial teat, through which the infant sucks the food. Various kinds are used : a prepared cow's teat, a piece of washed chamois leather, or a few folds of fine soft linen; whichever is preferred, must be secured firmly to the bottle with thread, and care must be taken that its extremity does not extend beyond its apex more than half or three-quarters of an inch ; for if it project more than this, the child will get the sides of the artificial teat so firmly pressed together between its gums that there will be no channel for the milk to pass. It must be pierced with two or three very fine openings, and, lest the milk should flow through too rapidly, a small conical piece of sponge must be placed in the teat. After every meal, if any food is left, it must be thrown away, the teat and sponge carefully washed with hot water, and the bottle scalded out; of the latter there should always be two in the nursery, to be used alternately. These precautions are very important; otherwise the food will be tainted, and the child's bowels become deranged. The most perfect cleanliness is absolutely essential to the success of this plan of rearing children. Messrs. Maw and Thompson supply an exceedingly good bottle : in fact, several kinds. We do not think that there will now-a-days be much difficulty on this score.

Of the quantity and frequency of giving food.— These must be regulated by the age of the child and its digestive power. In the early weeks, as in ordinary nursing, the quantity must be small, say six

or eight table-spoonfuls, and the supply more frequent than afterwards, as the stomach can bear only a small amount of nourishment at a time. As the child grows older, the quantity must be gradually increased, and a little experience will soon enable a careful and observing mother to determine the amount required. The frequency (after the first month) as a general rule should be fixed at about every four hours; this will allow a sufficient interval between each meal to insure the digestion of the previous quantity. If this rule is not observed, the process of digestion will be interrupted, and the food, passing along undigested, and fermenting, will derange the bowels without nourishing the child. The *great error in rearing the young is overfeeding*. It may, however, be easily avoided by the parent pursuing a systematic plan with regard to the hours of feeding, and then only yielding to the indications of appetite, and administering the food slowly, in small quantities at a time. This is the only way effectually to prevent indigestion, bowel complaints, the irritable condition of the nervous system so common in infancy, and to secure to the child healthy nutrition and consequent strength of constitution. If it be found requisite to give aperients and astringents, antacids and carminatives, frequently, there is something *faulty* in the management *of the diet*, however perfect it may seem.

The posture of the child when fed.—It must not receive its meals lying. The head should be raised on the nurse's arm, the most natural position, and one in which there will be no danger of the food going the wrong way, as it is called. After each meal the child should be put into its cot, or repose on its mother's knee, for half an hour or so. The practice of *dandling*

and *jolting* the infant soon after taking nourishment is hurtful. Rest is essential to digestion, as exercise is important at other times for the promotion of health. Nature constantly verifies the truth of this remark. All animals manifest an inclination for repose and quietude after a full repast; and experience has shown that the process of digestion is impeded by strong mental or corporeal exercise or agitation immediately after a meal.

Sect. 2.—The Food suitable after the first Teeth have appeared.

As soon as the child has got any teeth—and about the sixth or seventh month one or two will make their appearance—the artificial food may be increased in quantity and strength. If the child has hitherto been living upon cow's milk and water, the latter may be discontinued, and pure milk alone given, to be continued for a month or two longer, if the child continue to thrive. More solid food, however, will now in most cases be demanded, such as the mixture of some farinaceous preparation with the milk. It must, however, be stated that farinaceous preparations consist for the most part of starch,[1] the characters of which vary considerably. Although an important alimentary article later in life, it is one which must be given with care to children under twelve months of age, as it has been found that they do not properly digest this kind of food. It is this knowledge which has led to the introduction of a number of the artificial foods for infants: these are prepared in such a way that the starch is rendered soluble and digestible; and it is chiefly by means of heat that this change is brought about.

[1] Dr. Pavy. *Treatise on Food and Dietetics.*

Hard's Farinaceous Food.—Mix a table spoonful with a small quantity of cold water; add half a pint of boiling water, constantly stirring; then boil it eight minutes; strain through a sieve; add a small quantity of pure and fresh cow's milk, loaf sugar, and a few grains of salt. This preparation is recommended in preference to biscuit powder, and many other articles of diet of this class, from the deservedly high character it has obtained; and so long as it continues to be carefully prepared by the maker, it will be found a very valuable article of food for infants.

Tops and Bottoms.—Steep in boiling water a couple for ten minutes, add a little pure and fresh cow's milk, strain through a sieve, and mix with it a few grains of salt. Sometimes this food agrees better when prepared as follows:—Have a saucepan on the fire with exactly the quantity of water required; when fast boiling, throw two of these into it; let it boil five or six minutes: it will then be a clear smooth jelly, and when strained nothing will remain in the sieve; thin it with a little fresh and pure cow's milk, and add a few grains of salt.

Mellin's Extract for preparing Liebig's food.—It is prepared as follows:—Dissolve a table-spoonful of the extract in four table-spoonfuls of hot water, and add sufficient warm cow's milk to make half a pint. This is an excellent food, of the value of which we can speak with confidence.

Savory and Moore's Liebig's food is also a good preparation. Robb's biscuits can also be tried, or Nestle's Milk Food.

If none of these can be got, then thicken the milk slightly with baked flour. Put a small quantity of flour into the oven and bake it. It will probably form

into a hard mass, which must be carefully pounded and sifted through a sieve before being used.

When *one* or *two of the large grinding teeth* have appeared, beef-tea, chicken, mutton, or veal broth may be given once in the day. The ordinary mode of making these preparations, that of pouring *boiling* water on the meat, is objectionable. It has been proved experimentally that boiling water allowed to act even for as long as five hours on finely-chopped flesh does not dissolve more than the fifth part of the matters soluble in cold water. During maceration in cold water an interchange takes place between the juices of the meat and the cold water external to it, and lasts until there is nothing more to be got out of the meat. While, on the old method, the surface of the latter becomes hardened by the heat, and the water is prevented from permeating to the interior of each separate mass; the nutritious juices becoming sealed up by the action of the heat, instead of passing out of the meat into the water. The plan to be adopted is as follows:—Take a pound of lean beef, free from fat and separated from the bones; chop it up as mince-meat; pour upon it a pint of cold water, let it stand for two or three hours, and then slowly heat to boiling, and, after boiling briskly for a minute or two, strain the liquid through a fine sieve or cloth, and add a sufficiency of salt. The same plan may be adopted with mutton, veal, or chicken.

As the child advances in age, that is to say, after a month or two from the time we are now referring to, and as an introduction to the use of a more completely animal diet, a portion, now and then, of a soft boiled egg may be given; and by-and-by a small bread pudding, made with one egg in it, may form the dinner

meal. Nothing is more common than for parents, during this period, to give their children solid *animal food*. This is a great and mischievous error. It has been well said by Sir James Clark, that 'to feed an infant with animal food before it has teeth proper for masticating it, shows a total disregard to the plain indications of Nature, in withholding such teeth till the system requires their assistance to masticate solid food. And the method of grating and pounding meat, as a substitute for chewing, may be well suited to the toothless octogenarian, whose stomach is capable of digesting it; but the stomach of a young child is not adapted to the digestion of such food, and will be disordered by it.' Upon the same subject Dr. John Clarke observes, in his Commentaries,—'If the principles already laid down be true, it cannot reasonably be maintained that a child's mouth without teeth, and that of an adult, furnished with the teeth of carnivorous and graminivorous animals, are designed by the Creator for the same sort of food. If the mastication of solid food, whether animal or vegetable, and a due admixture of saliva, be necessary for digestion, then solid food cannot be proper when there is no power of mastication. If it is swallowed in large masses, it cannot be masticated at all, and will have but a small chance of being digested; and in an undigested state it will prove injurious to the stomach and to the other organs concerned in digestion, by forming unnatural compounds. The practice of giving solid food to a toothless child is not less absurd than to expect corn to be ground where there is no apparatus for grinding it. That which would be considered as an evidence of idiotism or insanity in the last instance, is defended and practised in the former. If, on the other hand, to obviate this evil,

the solid matter, whether animal or vegetable, be previously broken into small masses, the infant will instantly swallow it, but it will be unmixed with saliva. Yet in every day's observation it will be seen that children are so fed in their most tender age; and it is not wonderful that present evils are by this means produced, and the foundation laid for future disease.'

It is obvious then that care must be exercised, and that the diet must depend on the child's development, rather than on its age. Many children—rickety ones, for instance—are exceedingly backward with their teeth, and therefore at a given age require a different diet to that which would be suitable for a robust child with its mouth full of well-formed teeth. We may roughly state that if the teeth are well developed, animal food may be given; it should not be too fat, rather underdone, and cut small; one ounce daily will be quite sufficient. Well-baked bread, with a little butter, is also a very wholesome dish for a child after about its eighteenth month.

During the period of infancy to which the foregoing plan of diet refers, viz., from the seventh month to the termination of the second year, it must be constantly kept in mind that the important process of *teething* is going on, and that as this is commonly connected with more or less of disorder of the system, any error in diet is to be most carefully avoided. For while it is true that in the strong and healthy infant who has been nursed upon the breast, and not tasted artificial food until this period, disorder will be scarcely perceptible, so happy an exemption cannot be anticipated for the child that has been nourished upon artificial food alone from the hour of its birth. Teething under such circumstances is always attended with

more or less disturbance of the frame, and disease of the most dangerous character sometimes ensues. It is at this age, too, that all infectious and eruptive fevers are most prevalent; worms often begin to form, and diarrhœa, thrush, rickets, and cutaneous eruptions manifest themselves, and strumous disease is originated or developed. A judicious management of diet will do much to prevent these complaints, and mitigate their violence if they do occur.

If at any time *the artificial food disagrees* with the infant, causing the stomach and bowels to be disordered, the parent must in the first instance seek to correct this by an alteration of the diet, rather than by medicine. Much may be done by changing the nature, and sometimes by simply diminishing the quantity, of the food. *A diarrhœa, or looseness of the bowels,* may frequently be checked by giving, as the diet, sago thoroughly boiled in very weak beef-tea, with the addition of a little milk. The same purpose is sometimes to be answered by two-thirds of arrowroot, with one-third of milk; or, for a few days, arrowroot made with water only; or, if these fail, Hard's Farinaceous Food, mixed with boiled milk. *Costiveness* of the bowels may frequently be removed by changing the food to tops and bottoms steeped in boiling water, and a small quantity of milk added. Or Densham's Farinaceous Food (which is a mixture of three parts of the best wheaten flour and one part of the best barley meal) may be used. The barley makes this preparation somewhat laxative. Mix a table-spoonful with a small quantity of cold water; add half a pint of boiling water, constantly stirring; then boil eight minutes, strain through a sieve, add a small quantity of unboiled, pure, and fresh cow's milk, a little loaf-sugar,

and a few grains of salt. *Flatulence and griping* generally arise from an undue quantity of food passing undigested into the bowels; they are thus irritated and disturbed. This may be cured by abstinence alone. The same state of things may be caused by the food being over-sweetened—sometimes from its not being prepared fresh at every meal, or even from the nursing-bottle or vessel in which the food is given not having been perfectly clean. In this case weak chicken broth or beef-tea freed from fat, and thickened with soft boiled rice or arrowroot, may be given.

It is a grievous mistake for a mother to resort to medicine upon every slight derangement of the digestive system. Calomel, and remedies of a like kind, 'the little powders of the nursery,' ought not to be given on every trivial occasion. By the above powerful drug, given this way, more mischief has been effected, and positive disease produced, than would be credited. Purgative medicines, especially, ought at all times to be exhibited with caution to an infant; for so delicate and susceptible is the structure of its alimentary canal, that disease is but too frequently caused by that which was resorted to in the first instance as a remedy. The bowels should always be kept free and in a healthy condition; but then it must be by the mildest and least irritating means. In a large number of cases, these disorders will subside on removing the cause, and by far the most frequent must be reckoned indiscretions in diet.

CHAPTER IV.

DIET OF CHILDHOOD.

From the Second Year to the Eighth.

Childhood, as has been before intimated, extends from about the second year to the seventh or eighth. A careful management of the diet during this period of life is essential. It is difficult, however, to lay down any precise rules, as they should be adapted in every case to the particular constitution concerned. There are, however, certain general principles which must be acted upon, and which can be easily modified by a judicious and observant parent, as constitution and circumstances may require. I will first give some general directions applicable more or less to *all* children, and then speak separately of the various articles which usually form a part of the diet of this period. From the whole, I trust, the parent will gather the information suited to the particular constitution of each one of her children.

Sect. 1.—General Directions.

The diet of the *latter* months of infancy is still to be continued, but with the important addition of *animal food*, which the child has now got teeth to masticate. This must be given in small quantity—it

should be of the lightest quality; at first only allowed on alternate days, and even then its effects must be carefully watched, as all changes in the regimen of children should be gradual.

The meals should be given at intervals of about four hours: thus—*breakfast* between seven and eight o'clock, to consist of tops and bottoms, steeped in boiling water, a little fresh and pure cow's milk added, as also a few grains of salt, and loaf-sugar to sweeten, if necessary; or pour upon some bread just enough boiling water to soften it, cover it up for a minute or two in the steam, then add the fresh milk, a little salt, and sweeten with sugar; or oatmeal porridge and milk is sometimes to be preferred; it is unstimulating, easily digested, contains a considerable proportion of nutriment, and usually acts slightly on the bowels. *Dinner* about twelve o'clock, to consist of a small quantity of animal food (chicken, fresh mutton, or beef, being the only meats allowed), with a little bread and water, or a well-boiled rice and milk pudding, or a plain bread, sago, tapioca, or arrowroot pudding, containing one egg; or farinaceous food, with beef-tea. The *afternoon meal*, about four o'clock, the same diet as formed the breakfast. At *seven*, a little arrowroot, made with a very small proportion of milk, or a biscuit, or, better still, a crust of bread and a drink of good milk, after which the child should be put to bed.

As the child grows older, the quantity at each meal should be increased, and the quality somewhat altered. Pure milk, boiled or not, as it is found best to agree, may with bread form the breakfast and afternoon meals. And at dinner, meat and bread, with a small quantity of vegetable, and toast and water, may be taken daily.

And now the child should be taught a golden rule in connection with his diet, which, if it only once becomes *a habit*, will be of the most essential service to his health as long as he lives: he must be taught *to take his food slowly, and masticate it thoroughly*, and to take nothing in the intervals of his meals. The mother must carefully, day by day, attend to the quality and quantity of the food given. She will be amply rewarded by the health of her children, and their freedom from disease. I might cite many instances to prove the truth and importance of the foregoing remarks, and to show how fruitful of evil is their neglect. I select the following case:—I was sent for, at nine o'clock at night, to visit a child supposed to be dying. I found a fine boy, four years old, lying on his back in bed in a violent fit of convulsions; the front and upper part of his night-dress, shirt, and pillow-case covered with a large quantity of unmasticated and undigested food, which had been vomited a short time before. It appeared that he had been put to bed at eight o'clock, apparently in good health, and that about an hour afterwards his brother, lying by his side, had been awoke by a piercing and loud cry, when the little patient was found by his father in convulsions. A succession of fits continued till four in the morning, the child being unconscious the whole time. At this hour the remedies employed began to produce a good effect, the convulsions ceased, and consciousness returned. Feverish and other symptoms ensued, but health was regained after a few days. Now this attack, which was most severe and gave great alarm to the parents, and very reasonably so, was brought about entirely by the child being allowed to eat at its dinner meal (seven hours before the fits occurred)

immoderately, and much too fast, the food being bolted, not masticated, as proved by what was brought up; and from a want of due care in the selection of the food, which was boiled pork and apple-pudding.

Sect. 2.—Animal Food.

If the child be of *a sound constitution*, with healthy bowels, a cool skin, and clean tongue, the diet may be liberal, and, provided he is sufficiently advanced in age, animal food may be taken daily. Too low a diet would stint the growth of such a child, and induce a state of body deficient in vigour, and unfit to resist impressions unfavourable to health, and scrofula and other diseases would be induced. At the same time, let the mother avoid pampering, for this would lead to evils no less formidable, though of a different character. And as long as the general health of the child is unimpaired, the body and mind active, and no evidence present to mark excess of nutriment, this diet may be continued. But if languor at any time ensue, fever become manifested, the skin hotter than natural, the tongue white and furred, and the bowels irregular, then, though these symptoms should be only slight in degree, and unattended with any specific derangement amounting to what is considered disease, not only should the parent lower the diet, and for a time withdraw the animal part, but the medical adviser should be consulted, that measures may be taken to correct the state of repletion which has been suffered to arise. For some time after its removal, care should also be taken to keep the diet under that which occasioned the constitutional disturbance.

But if the child be of *a delicate and weakly constitution*, it will not bear so generous a diet as the

foregoing. During the three or four earliest years, it should be restricted chiefly to a mild farinaceous diet, with a small allowance only of meat on alternate days. The constant endeavour of the parent now should be, to seek to increase the digestive power and bodily vigour of her child by frequent exercise in the open air, and by attention to those general points of management detailed in the next chapter. This accomplished, a greater proportion of animal food may be given, and, in fact, will become necessary for the growth of the system, while at the same time there will be greater power of assimilation and digestion. A great error in the dietetic management of such children is frequently committed by parents. They suppose that because their child is weakly and delicate, the more animal food it takes the more it will be strengthened, and they therefore give animal food too early, and in too great quantity. This is to add to its debility. The system, as a consequence, becomes excited, nutrition is impeded, and disease produced, ultimately manifesting itself in scrofula, disease in the abdomen, head, or chest. The first seeds of consumption are often sown in this way. A child so indulged will eat heartily enough, but he remains thin notwithstanding. After a time he will have frequent fever, will appear heated and flushed towards evening, when he will drink greedily, and more than is usual in children of the same age; there will be a deranged condition of the bowels, and headache: the child will soon become peevish, irritable, and impatient; he will entirely lose the good humour so natural to childhood, and that there is something wrong will be evident enough, the parent, however, little suspecting the real cause and occasion of all the

evil. In such a child, too, it will be found that the ordinary diseases of infancy, scarlet fever, measles, small-pox, &c., will be attended with an unusual degree of constitutional disturbance; that it will not bear such active treatment as other children, or so quickly rally from the illness. 'Strength is to be obtained not from the kind of food which contains most nourishment in itself, but from that which is best adapted to the condition of the digestive organs at the time when it is taken.'

Of animal food, mutton and beef are the best fitted for the nursery; no meat is so digestible as tender mutton; beef, although equally nutritious, from its texture being firmer, is not quite so easily digested. Lamb may occasionally be taken, veal never; it is difficult of digestion, and less nutritive than the older meats. Pork ought equally to be avoided; also all salted meats, the fibre of which becomes so changed by this process as to render them very difficult of digestion by a young stomach. Fish may occasionally be given; it is, however, much less nutritive than beef or mutton, and frequently made very indigestible by the addition of either melted butter, lobster, shrimp, or egg sauce, which should therefore never be given to children.

Sect. 3.—Vegetables.

The *potato*, when in good condition, and well boiled, so as to become mealy, forms a nutritious and easily digested article of food for children; and a few weeks therefore after solid animal food is commenced, a small portion of this vegetable may with advantage be taken with it. It is hardly necessary to observe that the hard and waxy, as well as the new potato,

are equally indigestible and injurious. This vegetable ought to be the one in common use, still there are others for which it may occasionally be exchanged.

The *carrot* is very nutritive, but must be thoroughly boiled, or it is indigestible, and it should only be eaten when young. The *turnip*, although not very nutritive, is in general easily digested, and, when well boiled, and the watery part separated by pressure, does not produce flatulency, as some suppose. *Asparagus* is a nutritive and light kind of aliment, and the only objection to its use is the melted butter, for which pure gravy had always better be substituted. Old asparagus, however, is very unwholesome. *Cauliflower* and *broccoli* are not very nutritive, but may occasionally be given. *Greens* require great care in the cooking: and if given, they should always be in small quantity, and never to a dyspeptic child, in whom they will be apt to disagree, by producing acidity, flatulence, and their consequences. It should be remembered that vegetables too little boiled always prove injurious to children: they are indigestible.

Rice will at all times be a grateful addition to meat, and is particularly useful where potatoes and vegetables are found to disagree with the stomach. It must always be completely cooked; each grain thoroughly swelled and yet unbroken.

Pease-meal contains a large proportion of vegetable casein, and is therefore a very nutritious article of food. It is not easily digested, however, but may be used with advantage to thicken and flavour soups and broths.

Sect. 4.—Sugar and Salt.

Sugar is a necessary condiment for the food of children; it is wholesome and nutritious. It must, however, be given at all times in moderation, and to a child at all dyspeptic with caution, as it is apt to give rise to flatulency and acidity. 'The fondness of children for saccharine substances,' says Dr. Pereira, 'may be regarded as a natural instinct; since Nature, by placing it in milk, evidently intended it to form a part of their nourishment during the first period of their existence. Instead, therefore, of repressing this appetite for sugar, it ought rather to be gratified in moderation.' Its free use does not injure the teeth, as is generally imagined. 'During the sugar season,' observes Dr. Dunglison, 'the negroes of the West India islands drink copiously of the juice of the cane, yet their teeth are not injured; on the contrary, they have been praised by writers for their beauty and soundness; and the rounded form of the body, whilst they can indulge in the juice, sufficiently testifies to the nutrient qualities of the saccharine beverage.' Sweetmeats, on the other hand, are most indigestible and seriously injurious: but this is referred to in the following section.

Salt is a necessary article of food, being essential to the preservation of health and the maintenance of life. Nature has therefore furnished an appetite for it. One of the ill effects of an unsalted diet is the generation of worms. In Ireland, where from the bad quality of the food the lower classes are generally infested with these insects, a draught of salt and water is a popular and efficacious anthelmintic. Lord

Sommerville, in his address to the Board of Agriculture, gave an interesting account of the effects of a punishment which formerly existed in Holland. 'The ancient laws of the country ordained men to be kept on bread alone, *unmixed with salt*, as the severest punishment that could be inflicted upon them in their moist climate. The effect was horrible; these wretched criminals are said to have been devoured by worms engendered in their own stomachs.' The wholesomeness and digestibility of our bread are undoubtedly much promoted by the addition of the salt which it so universally receives. A pound of salt is generally added to each bushel of flour. Hence it may be presumed that every adult consumes two ounces of salt per week, or six pounds and a half per annum, in bread only. It has been calculated, indeed, that the average annual consumption of salt by an adult amounts to sixteen pounds; equal to about five ounces per week. In early infancy salt in small quantity may always be added with great advantage to the farinaceous food.

Sect. 5.—Fresh and Dried Fruits and Sweetmeats.

Fresh fruits, as a general rule, are injurious to a *delicate* child, with the exception of the orange. This fruit, when quite ripe, is rarely inadmissible; the skin and seeds, however, must be scrupulously rejected. The juice, too, forms a refreshing and grateful beverage, and in some of the complaints of childhood is useful in allaying thirst and diminishing preternatural heat. When unripe it is almost sure to cause griping, and should not be allowed even with the addition of sugar. A *healthy child*, whose digestive organs are vigorous, and in whom there is no liability

to bowel derangement, may be permitted occasionally to partake of most fresh fruits, but it must be in moderate quantity. Apples and pears, when perfectly ripe, and well masticated, are not unwholesome. It is somewhat hazardous, however, to allow these fruits in the raw state to a very young child, lest they should not be properly masticated; and it need scarcely be added that the unripe apples which children are so frequently allowed to take, are not only indigestible, but sometimes seriously hurtful. The apple when roasted forms a pleasant repast, and where there is a costive habit is useful as a laxative. Of the stone fruits, the ripe peach, the apricot, and nectarine are the most wholesome, but cherries ought never to be allowed: they do not agree with children, and besides this the stones are not unfrequently swallowed, when they sometimes produce very alarming and occasionally fatal results. The grape is delicious, as well as cooling and antiseptic, but the skin and seeds must be carefully rejected. Of the small-seeded fruits, the ripe strawberry and raspberry are most wholesome; the latter when taken freely promotes the action of the bowels. The gooseberry is less wholesome, on account of the indigestibility of the skin, which is too frequently swallowed. The fresh currant I object to for young children on account of the seeds, which I have known to be retained in the bowels for days, and even weeks, irritating the lining membrane, and thus exciting and keeping up a diarrhœa, which immediately got well upon their expulsion.

Dried fruits and sweetmeats a *young* child should never be permitted to take; they are a constant source of disorder. And yet no indulgence is so common in

some families as this; and because it is not generally attended with an immediate bad effect, it is never thought to be injurious. The practice of having young children down after the parents' late dinner, and giving them the dried and preserved fruits and other confectionery which may be on the table, is very productive of indigestion and bowel complaints. Again and again have I traced to this habit illness of a serious and protracted character. Dr. Eberle very justly says: 'The conduct of parents in relation to this subject is often extremely irrational and pernicious in its consequences. They would not themselves venture on the frequent and free use of confectioneries of this kind; and yet will indulge their children without scarcely any restraint in the use of these pernicious luxuries. The sicklier and weaker a child is, the more apt in general is it to be allowed these destructive gratifications. The pale, feeble, and sickly child, whose stomach is hardly able to digest the most simple and appropriate aliment, is sought to be appeased and delighted by the luscious and scarcely digestible articles of the confectioner. Indigestion, intestinal irritation, terminating often in ulceration and incurable diarrhœa, are the frequent consequences of such conduct; and, at best, such indulgences must inevitably prolong the feeble and sickly condition of the child, and not unfrequently eventuate in permanent constitutional infirmity.' My own observation and experience confirm most fully the truth of this statement. In families where there is much dinner company, as a general rule, there is always more disorder of the digestive organs of the children than where this is not the case.

The dried grape or raisin should be given to children with caution, and, indeed, they are better altogether

without them. If eaten freely they are apt to disorder the digestive organs and cause flatulence; but more than this, the skins, which are not digestible even by the stomach of the adult, are liable to remain in the bowels, and cause very serious illness. Dr. Eberle speaks of three instances occurring to him, in which convulsions and speedy death were unequivocally the consequence of overcharging the stomach with this fruit; and he relates another case of the child of a medical friend of a most alarming character, produced by the same cause. 'The infant appeared to be well when put to bed. On attending at about midnight, it was found cold, pulseless, with a death-like expression of the countenance, and apparently dying. In a short time spontaneous vomiting came on, by which a large quantity of raisins was thrown from the stomach, after which all the alarming symptoms speedily disappeared. The raisins had been given to the child by a servant of the family without the knowledge of its parents.'[1]

Sect. 6.—Water, Wine, Beer, and Spirits.

Water should be the only beverage throughout childhood—toast-and-water, if the child prefer it, which is rendered slightly more nutritive than the more simple fluid. The water employed in its preparation, however, must be at the boiling temperature, and it ought to be drunk as soon as it has sufficiently cooled, for by being kept it acquires a mawkish and unpleasant flavour.

[1] Poisoning by Sweetmeats. *Caution to Parents.*—Last week an inquest was held at Ashford on two brothers, who were poisoned by eating the painted ornaments of a twelfth-cake. Professor Taylor said, that upon making an analysis of the stomachs of the deceased children, he found that there was

The practice of giving *wine, beer*, or, indeed, *any stimulant*, to a healthy child, is highly reprehensible: it ought never to be given except medicinally. The circulation in infancy and childhood is not only more rapid than in the adult, but easily excited to greater vehemence of action; the nervous system, too, is so susceptible that the slightest causes of irritation produce strong and powerful impressions: the result in either case is diseased action in the frame, productive of fever, convulsions, or some functional derangement. An experiment made by Dr. Hunter upon two of his children illustrates, in a striking manner, the pernicious effects of even a small portion of intoxicating liquors at this tender age. To one of the children he gave, every day after dinner, a full glass of sherry: the child was five years of age, and unaccustomed to the use of wine. To the other child, of nearly the same age, and equally unused to wine, he gave an orange. In the course of a week, a very marked difference was perceptible in the pulse, urine, and evacuations from the bowels of the two children. The pulse of the first was raised, the urine high-coloured, and the evacuations destitute of their usual quantity of bile. In the other child, no change whatever was produced. He then reversed the experiment, giving to the first the orange, and to the second the wine, and the results corresponded; the child who had the orange continued well, and the system of the other got straightway into disorder, as in the first experiment.

Marcellin relates an instance of seven children in a family, whose bowels became infested with worms,

a large quantity of arsenic, which had caused death. During the last two years he had met with ten fatal cases from children eating these ornaments.—See *Times*, Jan. 29, 1853.

from the use of stimulants. They were cured by substituting water for the pernicious beverage.

In this city, spirits, particularly gin, are given to infants and children to a frightful extent. I once saw an old Irish woman give diluted spirits to an infant just born. A short time since one of these dram-drinking children, about eight years of age, was brought into one of our hospitals. The attendants, from its emaciated appearance, considered the child was dying from mere starvation; which was true enough in a certain sense. Food was accordingly offered and pressed upon it, but the boy would not even put it to his lips. The next day it was discovered that the mother brought the child very nearly a pint of gin, every drop of which before night he had consumed; a quantity which must have destroyed life, if dram-drinking had not been the habit of the boy.

It is easy to discover when children have been fed upon spirits: they are always emaciated; have a lean, yellow, haggard look; the eyes sunk, the lips pale, and the teeth discoloured, the cadaverous aspect of the countenance being most fearful. They are continually suffering from bowel complaints and convulsive disorders; which, under these circumstances, terminate invariably in an early death.

There is a circumstance connected with the dieting of children with which parents ought to be acquainted; certain articles of food, most wholesome in themselves and taken with advantage by others, disagreeing with an individual child. We cannot conceive why, but presume it depends upon a hidden peculiarity of constitution, which we call idiosyncrasy, and which generally remains through life. Eggs, milk, sugar, cheese, mutton, and other kinds of food, will thus have an almost

poisonous effect, even when taken in the smallest quantity, and however disguised by the most ingenious cookery. Dr. Prout mentions the case of an individual who could not eat mutton in any form. The peculiarity was supposed to be owing to caprice, and the mutton was repeatedly disguised, and given unknown to the individual; but uniformly with the same result of producing vomiting and diarrhœa. And from the severity of the effects, which were in fact those of a virulent poison, there can be little doubt that, if the use of mutton had been persisted in, it would have soon destroyed the life of the individual. But whilst we admit this rare peculiarity, we must be careful not to indulge the dainty dislikes of a child to substances which when eaten produce no ill-effects. For the mind's sake as well as the body, such a disposition cannot be too early and vigorously opposed.

CHAPTER V.

GENERAL MANAGEMENT OF INFANTS UP TO THE SECOND YEAR, AND OF CHILDREN UP TO THE EIGHTH.

Sect. 1.—Of the Children's Apartments and Servants.

A LARGE portion of the early years of children being spent in the nursery, and under the immediate care of dependents, the apartments they inhabit, and the persons who have the charge of them, ought to be of no small moment to parents, for the health and future welfare of their children will greatly depend on these two points.

Apartments.—The proper ventilation of the apartments of children has not hitherto received that share of attention which its serious influence upon health deserves. Provision is rarely made for a regular supply of fresh, or removal of vitiated air, beyond what is afforded by windows, doors, and open chimneys. The fact is, that the public generally are not alive to the vast evils consequent upon breathing impure air. If, however, anyone wants to be convinced, and to see them in their most unmitigated form, it is only necessary to visit the dwellings of the poor in a crowded city; the atmosphere they will have to breathe, and the appearance of the inmates, will amply suffice to

convince the most sceptical. Dr. Liddle, the Medical Officer of Health for the Whitechapel District ('Daily Telegraph,' April 26, 1876), showed by actual figures that the death-rate increases in frightful proportions in direct ratio with the density of the population; it is stated in one part of a district which was sadly overcrowded, that the death-rate rose from an average of 26 per 1,000 to 70 per 1,000; and that this great increase was chiefly due to consumption and similar diseases. 'The chief victims of malaria were the women and children who, vegetating at home—if such noisome dens could be called "homes"—were more exposed to deleterious influences than the men who were away at work.' I quote these figures, not because I think any of my readers will ever be so situated that these pernicious influences will work on them, but just to show what the value of fresh air really is, and with a view to impress on them how important a subject that of ventilation is. Many authorities might be appealed to in confirmation of this conclusion. I will only cite one: Sir James Clark regards 'the respiration of a deteriorated atmosphere as one of the most powerful causes of the tuberculous cachexia' (viz., the constitutional affection which precedes the appearance of consumption). He says: 'If an infant born in perfect health, and of the healthiest parents, be kept in close rooms, in which free ventilation and cleanliness are neglected, a few months will often suffice to induce tuberculous cachexia.' 'There can be no doubt,' he adds, 'that the habitual respiration of the air of ill-ventilated and gloomy alleys in large towns is a powerful means of augmenting the hereditary disposition to scrofula, and even of inducing such a disposition *de novo*. Children

reared in the workhouses of this country, and in similar establishments abroad, almost all become scrofulous, and this more, I believe, from the confined impure air in which they live, and the want of active exercise, than from defective nourishment.' A striking instance of the ill-effects of deficient ventilation in schools, strongly confirmatory of this view, is mentioned in the second volume of the Poor Law Reports. The school referred to consisted of 600 pupils, amongst whom scrofula broke out extensively, and great mortality occurred, which was ascribed to bad and insufficient food. The case was investigated; the food was proved to be most abundant and good; and defective ventilation and consequent atmospheric impurity were assigned as the cause. Ventilation was applied, the scrofula soon after disappeared, and 1,100 children are now maintained in good health, where the 600, before ventilation, were scrofulous and sickly.

Enough has been said, I think, to prove the extreme importance of thorough ventilation in the apartments of the young, and to induce the reader to adopt the principle where at present it is in any degree neglected. For it may be regarded as a well-ascertained fact that, where systematic ventilation does not exist, it is almost impossible to keep an apartment shut up for any length of time without a condition of atmosphere being produced that must be injurious. How often, where rooms are ill-ventilated, must a mother, on entering her nursery in the course of the day, but more particularly the bedroom of her children in the early morning, be sensible of the impurity of the atmosphere while the occupants are altogether unconscious of it. Comparatively fresh at the commencement of the day or night, the air deteriorates so slowly and equally

that, unless it is contrasted with the external atmosphere, its impure state is not perceived. Now, the result of breathing this, day after day, and night after night, however slightly it may be vitiated, is inevitably deteriorative of health, and, although its injurious influence be not so immediate or serious as in the aggravated case of the poor child, *it is* slowly going on, and is *like in kind*; for scrofula (the sure result of a fixed law), in one or other of its forms, or delicate health, will manifest itself. The lassitude and weariness of children after a night's repose, when they ought to be refreshed and sprightly, is often attributed to indisposition, when it frequently arises simply from breathing through the night the atmosphere of a close bedroom.

To explain the manner in which the atmosphere becomes deteriorated by respiration seems desirable, and I cannot do better than quote Dr. Arnott's words: 'Ventilation is the changing anywhere air which has been rendered impure. The chief cause of impurity is the respiration of persons in the place. In respiration or breathing, a man draws into his chest at one time about 20 cubic inches of air, and of that air a fifth part is oxygen, of which again there is converted into carbonic acid nearly one-half. The carbonic acid, if afterwards inhaled, would be noxious to the individual. About 15 inspirations are made in the minute, vitiating therefore 300 cubic inches, or nearly one-sixth of a cubic foot of atmospheric air, but which, mixing as it escapes with several times as much, renders unfit for respiration at least two cubic feet under common circumstances. The removal of this impure air, and the supply in its stead of fresh air, is perfectly accomplished by an uninterrupted natural agency. The air which

issues from the chest being heated to near the temperature of the body, or 98°, and therefore dilated, is specifically lighter than the surrounding air, at any ordinary temperature, and therefore ascends in the atmosphere to be diffused there, as oil set free under water rises in it to spread above; in both cases, a heavier fluid in fact pushing up and taking the place of a lighter. This beautiful provision of Nature, without trouble to the party, or even his being aware of it, is relieving him at every instant from the presence of a deadly though invisible poison, and replacing it with pure, vital sustenance; and the process continues while he sleeps as while he wakes, and is as perfect for the unconscious babe, or even the brute creature, as for the wisest philosopher. The process may be called natural ventilation, and in the open atmosphere, while the wind blows, and the air is as uninterruptedly passing the person, as the water of a mountain stream is passing its finny inhabitants, the process is perfect. When men, however, construct apartments which shut up or confine air, the action is disturbed. But even then, some degree of the same change always takes place by the escape through the crevices and joinings about windows, doors, &c., of a portion of the warm air, to be replaced by fresh air entering below. And it is this natural ventilation of rooms, which, by effecting the purpose to a certain degree, has prevented the mass of mankind from discovering the want of any other. Such accidental ventilation, however, is very irregular and imperfect.'[1] It will be observed that the breath of the inmates of the apartment does not tend towards the chimney, but directly to the ceiling, and to escape must again descend to come below the

[1] Dr. Arnott on Ventilating and Warming.

level of the mantel-piece ere it reach the chimney, and thus the same air may be breathed again and again.[1]

Provided there be a proper draught up the chimney, Dr. Arnott's valve[2] secures the most perfect

[1] It is known that a canary bird, suspended at the top of a curtained bedstead in which people have slept, will generally, owing to the impurity of the air, be found dead in the morning.

[2] 'The ventilating valve is a contrivance placed in an opening made from the room into the chimney-flue, near the ceiling, by which all the noxious air above referred to is allowed at once, in obedience to the chimney draught, to pass away, but through which no air or smoke can return. The valve is in principle a small weigh-beam or steel-yard, carrying on one arm a metallic flap to close the opening, and on the other a weight to balance the flap. The weight may be screwed on its arm to such a distance from the axis, or centre of motion, that it shall exactly counterpoise the flap, but when in use it is left a little further off, so as just to preponderate, and to lift the flap very softly to the closing position. Although the valve, therefore, be heavy and durable, a breath of air suffices to move it; which, if from the room, opens it, and, if from the chimney, closes it; and when no such force interferes, it settles in its closed position.

'It is to be observed, that if the opening or throat of the chimney-flue at the fire-place be so wide that more air can easily enter there than can escape at the chimney-pot above, the chimney will not draw air in also at the ventilating valve; it is essential, therefore, that the register door, which is part of ordinary good stoves, be so far closed, after the fire is lighted, as to allow only the smoky air to enter, and not also, as is common, much of the pure air of the room escaping to waste. Where such a door does not exist, it may be obtained for a few shillings. It is further essential, that the chimney-pot above be of sufficient size, and that no known cause of unsteady draught be allowed to remain. Usually the crevices unavoidably left around the doors and windows of rooms, admit air enough to feed the fire and to ventilate sufficiently; but occasionally, it is well to widen the chink above or below the door. In summer, when there is no

ventilation, and must be considered one of the most valuable of that disinterested philosopher's contributions to human welfare and comfort. But owing to the unscientific construction of most fire-places and chimney-flues, this contrivance is often rendered futile by the downward draught in certain states of the atmosphere. However, the new registered fire-grates and the improved plan of flues tend very much to obviate these difficulties; and if anything further be required, we would advise the use of the Archimedian screw ventilator, as made and sold by Mr. Howorth, of Farnworth, Lancashire. The screw impels a never-ending up-current, so that the hot and impure air is continually removed, whilst the continuity of the same up-current prevents down-draught and its evil effects. An improvement on Arnott's valve has recently been patented; and though the principle remains the same, the construction of the valves is bettered. The improvement consists in the substitution of plates of mica for the silk or metal of which the valves are usually made, and the advantages claimed for this are its lightness and incorrodibility. Either of these valves can be obtained of numberless firms, and enclosed in boxes exhibiting any quantity of ornament, to suit the taste or purse of the buyer.[1]

For the admission of fresh air into the apartment, if the crevices usually and unavoidably left around the doors and windows of rooms do not admit enough to feed the fire and to ventilate sufficiently, and they seldom do, it will be well either to widen the chink

fire, the bottom of the chimney should be closed by the register door, or by the common chimney-board.'—Dr. Arnott *On Ventilation and Warming.*

[1] Wm. Eassie on Ventilation, &c.

above the door, or in some cases to introduce a plate of zinc finely perforated (220 holes to an inch) into one of the window-frames—the size of which plate must vary according to the size and construction of the room. These fine orifices prevent the air coming in with a rush, which would occasion discomfort, and tend to diffuse the air equally and gently through the apartment. There are other modes proposed, which under certain circumstances may be more desirable. But whatever plan is adopted it is imperatively necessary to secure a pure external atmosphere by effective drainage, cleansing, and prevention of nuisances; for without such measures no system of ventilation can be successful, and with it one-half of the remedy may be said to be already secured.

In addition to these means, the windows of the nursery should be thrown wide open before the children come into it in the morning, and those of the bedroom after they have left it; and of course in summer weather both may be frequently left open during the day, when judiciously managed, with great advantage. No cooking or washing of linen, nothing in fact that would pollute the atmosphere, must be permitted in the nursery. Its temperature must be carefully regulated, and never allowed to rise above 65°. Heated rooms make children very susceptible of disease, particularly during the period of teething: and such as are accustomed to immoderately warmed rooms will always, when taken into the cold external air, be much more liable to suffer than others, and during cold and humid weather will seldom be free from coughs and colds. The best mode of warming is a good coal fire. In the winter months, in the case of young children, there should also be a fire in the

bedroom, so as to secure a temperature of 60°. Many an attack of inflammation of the lungs has arisen from a delicate child being undressed and put to bed at this period of the year, in a room where this pre caution has been disregarded.

If possible the nursery should have a southerly or westerly aspect, commanding a pleasant prospect without, and be light and cheerful within. *The light of the sun has a powerful influence upon the growth and healthy development of the body;* and if children are immured in cheerless rooms, looking into dark shrubberies, or on the back-yards and chimneys of a town, their health must inevitably suffer. The influence of light on the vegetable kingdom is known to everyone who has observed the bleached appearance of a plant growing in the dark, or corn growing under the shade of a tree, which is always paler and later in ripening than that growing in an open part of the field. Some ingenious experiments were made by Dr. Edwards, showing the influence of light upon the development of animals, in which it was found that those which naturally change their form, as tadpoles, were prevented doing so by its withdrawal. By analogy we are warranted in inferring that light must materially influence development and health in man; and it is positively found that children deprived of its wholesome and gentle stimulus grow up pale, sickly, and deformed, of which numerous examples may be seen in the dark courts and cellars of all great cities.

Then, again, a dull and confined prospect is a source of gloom to the naturally cheerful and active mind of a child; it should look out upon that which would gladden and refresh it. For the same reason the walls of its nursery should be surrounded with

pleasant and instructive pictures (easily attainable in the present day); all which would tend constantly, although imperceptibly, to produce a beneficial and happy influence upon health and character. The fire should be guarded by a high and firmly-fixed fender; the lower half of the windows with iron bars—a precaution which has saved many a life. The floor also should be well carpeted, which best prevents those serious effects which sometimes follow severe falls in early childhood. Never have any unnecessary furniture in this apartment, that there may be ample space for the children to exercise and amuse themselves in. Leave as few things as possible within their reach which they are not to touch: and never allow painted toys to very young children; they carry them to their mouths (particularly if teething), and sucking off the paint, there is great danger of their health suffering from the lead which is thus swallowed.

Nurse-maid.—I would remind the mother that, although she is the guardian of the physical and moral health of her children, she must recollect that the nurse-maid must necessarily have a considerable influence over the culture of both. The most watchful parent cannot be every moment in her nursery, but her nurse-maid lives there. Day and night she has the care of and is the companion of the little ones. She looks after their persons, food, clothing, and apartments—their amusements, exercise, and rest—and she must necessarily, more or less, have to do with the formation of their moral character. Not only their present health and well-doing, but their conduct and happiness in future life, will, to a great degree, be influenced by the manner in which the nurse-maid's duty is performed. There is therefore

every reason for using the utmost care in the selection of the individual to whom such a trust is confided.

A nurse should be of a happy, cheerful disposition: this has a most beneficial influence on the character and health of children. The youngest child is sensibly affected by the feelings apparent in the faces of those around him. How beautifully is this circumstance illustrated in the following quotation from the diary of a titled and amiable woman of former times; although a fiction, the paragraph I quote is so true to nature that I cannot refrain from inserting it. Speaking of her first and infant boy, she writes: 'Yesterday it happened, as I nursed him, that, being vexed by some trifling matters that were not done as I desired, the disturbed expression of my countenance so distressed him that he uttered a complaining cry; made happy by a smile and by the more serene aspect that affection called forth, he nestled his little face again in my bosom, and did soon fall asleep. It doth seem a trifling thing to note, but it teacheth the necessity of watchfulness.'[1] An active, cheerful, good-humoured nurse, by regular affectionate attendance, by endeavouring to prevent all unnecessary suffering, and by quickly comprehending the language of signs in her little charge, will *make* a child good-humoured. Yet, on the other hand, the best-humoured woman in the world, if she is stupid, is not fit to have the care of a child; for it will not be able to make her understand anything less than vociferation. A careless, negligent, and passionate woman will not only injure the temper of the child, but its health too. If possible, avoid placing

[1] Diary of Lady Willoughby, p. 11.

children under the charge of an individual suffering from any great natural defect—a person who squints for instance, or who may have lost an eye—or who is lame, or partially ugly—or even one who has a bad expression of countenance. Anyone who stutters or has any kind of impediment in her speech—nay, anyone whose voice is particularly harsh and loud—or whose manners are rough and clumsy—is not a fit person to have charge of children.

Dr. West,[1] in speaking of a nurse's qualifications, says: 'Indeed, if any of you have entered on your office without a feeling of very earnest love to little children—a feeling which makes you long to be with them, to take care of them, to help them—you have made a great mistake in undertaking such duties as you are now engaged in.' Now, although this was addressed to those who had undertaken the care of sick children, it is nevertheless equally applicable to those who undertake the duties of nurse to healthy children; and it should convey to all those about to engage nurses what Dr. West considers as the first and best qualification—love of children. Without this it is impossible to get on, and no amount of labour or teaching will compensate for the want of this qualification. Dr. West, I believe, considers that all who engage in the care of children should have a short preliminary training in a children's hospital, 'learning to do all those little offices which would make a young woman as useful in sickness as in health.' I fear this is too high a standard for most nurses, but it is none the less a standard to which all may, reasonably now-a-days, aspire. I can only urge

[1] Dr. West, *How to nurse Sick Children.* Third edition.

on those whose means allow, and whose families are large, the desirability of seeuring sueh a nurse, and in doing so, feel that it would bring a sure reward.

Cleanliness is essential in a nurse. Without thorough cleanliness the health and comfort of children must greatly suffer. Their persons, clothes, bed-elothes, and beds must ever be kept clean, pure, and swect; and depend upon it this will never be the case, if the nurse who has the eharge of them is not in herself in all respects cleanly. Never be satisfied with a nurse merely washing her face and hands upon rising in the morning, and the latter during the day, as occasion may oblige her; but require a thorough ablution of the whole body, every or every other morning. This will not be thought by any means a work of supererogation, when it is remembered that one or other of the little ones is in the nurse's arms the greater part of the day, and, perhaps, during the night one has to sleep with her.

A nurse should be an early riser. She will thus betimes have her nursery well ventilated and cleaned, and ready for the children, who are generally early risers, or ought to be. Ir order for this to be habitually carried out, arrangements must always allow the nurse-maid to retire to rest early.

A nurse-maid should be fully impressed with the importance of promptly informing the parents of any eireumstanees eonneeted with the health of the children that from time to time may demand attention. An observant nurse will often, by thus timely drawing attention to slight indisposition, prevent serious diseasc. And she should, on no account, conceal any injury the child may have sustained.

Sect. 2.—Sleep.

During Infancy,—For three or four weeks after birth the infant sleeps, more or less, day and night, only waking to satisfy the demands of hunger. At the expiration of this time, however, each interval of wakefulness grows longer, so that it sleeps less frequently, but for longer periods at a time. This disposition to repose in the early weeks of the infant's life must not be interfered with; but this period having expired, great care will be necessary to induce regularity in the hours of rest, otherwise too much will be taken in the daytime, and restless and disturbed nights will follow. The child should be brought into the habit of sleeping in the middle of the day, say from eleven to one o'clock, and again for half an hour or an hour about three o'clock, not later, or it will inevitably cause a bad night. He should not now be put to sleep immediately after a meal, as the process of digestion would cause the sleep to be uneasy, and therefore unrefreshing. The amount of sleep required will necessarily differ somewhat in different children, but an observant parent will soon determine for herself what is required, and the regulations laid down above will be found generally applicable. The chamber should always be darkened and kept as free from noise as possible.

During the lying-in month the infant should sleep with its parent; the low temperature of its body, and its small power of generating heat, render this necessary. If it should happen, however, that the child has disturbed and restless nights, it must immediately be removed to the bed and care of another female, to be brought to its mother at an early hour in the morn-

ing for the purpose of being nursed. This is necessary for the preservation of the mother's health, which, through sleepless nights, would of course be soon deranged, and the infant would also suffer from the influence this would have upon the milk.

When a month or six weeks has elapsed, the child, if healthy, may sleep alone in a cradle or cot, care being taken that it has a sufficiency of clothing—that the room in which it is placed is sufficiently warm, certainly not under 60°—and the position of the cot itself is not such as to be exposed to currents of cold air. It is essentially necessary to attend to these points, since the faculty of producing heat, and consequently the power of maintaining the temperature, is less during sleep than at any other time, and therefore exposure to cold is especially injurious. It is frequently the case that inflammation of some internal organ will occur under such circumstances, without the true source of the disease ever being suspected. Here, however, the error must be guarded against of covering up the infant in its cot with too much clothing—throwing over its face the muslin handkerchief—and, last of all, drawing the drapery of the bed closely together. The object is to keep the infant sufficiently warm with pure air; it therefore ought to have free access to its mouth, and the atmosphere of the whole room should be kept sufficiently warm to allow the child to breathe it freely: in winter, therefore, there must always be a fire both in bedroom and nursery, and the light must be excluded by closing the window-curtains or shutters.

The child up to two years old, at least, should sleep upon a feather bed, for the reasons referred to above. The pillow, however, after the sixth month, should be

made of horsehair; for at this time teething commences, and it is highly important that the head should be kept cool. Great care should be taken to keep the bed and bed-clothes of the infant perfectly sweet and clean. They should frequently be taken out and exposed to the air. A very excellent means to prevent their being soiled is the use of Macintosh sheeting.

During Childhood.—From the second year and up to the third or fourth, the child should be permitted to sleep for an hour or so before its dinner. After this time it may gradually be discontinued; but it must be recollected, that during the whole period of childhood more sleep is required than in adult age. The child, therefore, should be put to rest every evening between seven and eight; and if it be in health it will sleep soundly until the following morning. No definite rule, however, can be laid down in reference to the number of hours of sleep to be allowed; for one will require more or less than another. The amount of sleep necessary to preserve health varies according to the state of the body, and the habits of the individual. As already observed, infants pass much the greater portion of their time in sleep. Children sleep twelve or fourteen hours. The schoolboy generally ten. In youth, a third part of the twenty-four hours is spent in sleep. Whilst, in advanced age, many do not spend more than four, five, or six hours in sleep. Regularity as to the time of going to rest is the chief point to attend to; permit nothing to interfere with this, and then only let the child sleep without disturbance, until it awakes of its own accord on the following morning, and it will have had sufficient rest.

It is a cruel thing for a mother to sacrifice her child's health that she may indulge her own vanity;

and yet how often is this done in reference to sleep. An evening party is to assemble, and the little child is kept up for hours beyond its stated time for retiring to rest, that it may be exhibited, fondled, and admired. Its usual portion of sleep is thus abridged, and, from the previous excitement, what little he does obtain is broken and unrefreshing, and he rises on the morrow wearied and exhausted.

Once awake, he should not be permitted to lie longer in bed, but should be encouraged to arise immediately. This is the way to bring about the habit of early rising, which prevents many serious evils to which parents are not sufficiently alive, promotes both mental and corporeal health, and of all habits is said to be the most conducive to longevity.

A child should never be suddenly aroused from sleep; it excites the brain, quickens the action of the heart, and, if often repeated, serious consequences would result. The change of sleeping to waking should always be gradual.

The bed on which the child now sleeps should be a mattress: and, when possible, a horsehair mattress is the most healthy and the most wholesome: at this age a feather bed is always injurious to children; for the body, sinking deep into the bed, is completely buried in feathers, and the unnatural degree of warmth thus produced relaxes and weakens the system, particularly the skin, and renders the child unusually susceptible to the impressions of cold. Instead of the bed being made up in the morning as soon as vacated (a very common practice), and while still saturated with the nocturnal exhalations from the body, the night and bed-clothes should be thrown over the backs of chairs, the mattress shaken well up, and the window

thrown open for several hours, so that the apartment shall be thoroughly ventilated. Never allow a child to sleep with persons in bad health or who are far advanced in life; if possible, he should sleep alone. Those who possess the means should avoid placing several children in the same bedroom.

Sect. 3.—Bathing and Cleanliness.

During Infancy.—Too much attention cannot be paid to cleanliness: it is essential to the infant's health. There is constantly exhaling from the innumerable pores of the skin a large amount of fluid and solid matter, designated in common terms the perspiration. The fluid part of this passes off, and mixes with the atmosphere, but a great portion of the solid part is left adhering to the skin. The latter, if not removed after a time, so accumulates as to obstruct the pores and necessarily impedes any further exhalation. The result is disordered health, or perhaps an obstinate and troublesome eruption on the skin itself. Persons generally have no idea of the value and importance of the functions of the perspiratory system, and its influence on the health and comfort of the individual. This subject is presented in a very interesting and striking manner in the following observations of Mr. Erasmus Wilson:—'I counted the perspiratory pores in the palm of the hand, and found 3,528 in a square inch. Now, each of these pores being the aperture of a little tube of about a quarter of an inch long, it follows that in a square inch of skin on the palm of the hand there exists a length of tube equal to 882 inches, or 73½ feet. Surely such an amount of *drainage* as 73 feet in every square inch of skin, assuming this to be the average of

the whole body, is something wonderful, and the thought naturally intrudes itself—what if this *drainage* were obstructed?'[1]—'The number of square inches of surface in a man of ordinary height and bulk is 2,500; the number of pores, therefore, is 700,000, and the number of inches of perspiratory tube 1,750,000, that is, 145,833 feet, or 48,600 yards, or nearly 28 miles.' From this explanation the necessity and value of cleanliness to the health must be self-evident. Besides these important considerations, Dr. Eberle very justly remarks: 'The agreeable feelings which entire cleanliness is calculated to produce, as well as the excellent moral influence which it is capable of exerting on the mind, are in themselves of sufficient moment to claim for it the most solicitous attention. Children who are early accustomed to the comfortable and healthful impressions of washing and bathing, will rarely in after life neglect the observance of personal cleanliness; and those, on the contrary, who are neglected in this respect during childhood, will seldom manifest a proper regard for this physical virtue in the subsequent stages of their lives.'

The principal points to which especial attention must be paid by the parent are the following:—

Temperature of the Water.—In the early weeks of the infant's life, it should, as soon as taken from its bed in the morning, be washed in warm water from 96° to 98°, and be put into a bath of the same temperature for a few minutes every evening before it is put to rest. To bathe a delicate infant of a few days

[1] Perhaps the importance of attending to the skin will receive additional weight by my stating that the amount of the *drainage* which daily passes from its pores approximates very nearly to that which flows from the kidneys.

or even weeks old in cold water, with a view 'to harden' the constitution (as it is called), is the most effectual way to undermine its health and entail future disease. By degrees, however, the water with which it is sponged in the morning should be made tepid, the evening bath being continued warm enough to be grateful to the feelings. A few months having passed by, the temperature of the water may be gradually lowered until cold is employed, with which it may be either sponged or even plunged into it, every morning during *summer*. If plunged into cold water, however, it must be kept in but a minute; for, at this period especially, the impression of cold continued for any considerable time depresses the vital energies, and prevents that healthy glow on the surface which usually follows the momentary and brief action of cold, and upon which its usefulness depends. With some children, indeed, there is such extreme delicacy and deficient reaction as to render the cold bath hazardous; no warm glow over the surface takes place, when its use inevitably does harm. Its effects therefore must be carefully watched.

Drying the Skin.—The surface of the skin should always be carefully and thoroughly rubbed dry with flannel—indeed, more than dry, for the skin should be warmed and stimulated by the assiduous gentle friction made use of. For this process of washing and drying must not be done languidly, but briskly and expeditiously; and will then be found to be one of the most effectual means of strengthening the infant. It is especially necessary carefully to dry the arm-pits, groins, and buttocks: and if the child is very fat, it will be well to dust over these parts with hair-powder or starch contained in a muslin bag; this

prevents excoriations and sores, which are frequently very troublesome. Soap is only required to those parts of the body which are exposed to the reception of dirt.

I cannot refrain from quoting a passage here, which I recommend to the consideration of every parent, as no less philosophical than practically true :—

'During this daily process of washing, which should not be done languidly, but briskly and expeditiously, the mind of the little infant should be amused and excited. In this manner dressing, instead of being dreaded, as a period of daily suffering—instead of being painful, and one continued fit of crying—will become a recreation and amusement. In this, treat your infant, even your little infant, as a sensitive and intelligent creature. Let everything which *must* be done, be made not a source of pain, but of pleasure, and it will then become a source of health, and that both of body and mind ; a source of exercise to the one and of early discipline to the other. Even at this tender age, the little creature may be taught to be patient, and even gay, under suffering. Let it be remembered that every act of the nurse towards the little infant is productive of good or evil upon its character as well as health. Even the act of washing and clothing may be made to discipline and improve the temper, or to try and impair it, and may therefore be very influential on its happiness in future life. For thus it may be taught to endure affliction with patience and even cheerfulness, instead of fretfulness and repining. And every infliction upon the temper is also an infliction upon the body and health of the little child. The parent and the nurse should, therefore, endeavour to throw her own mind into

her duties towards her offspring. And in her intention of controlling her infant's temper, let her not forget that the first step is to control her own. How often have I observed an unhappy mother the parent of unhappy children!'[1]

Napkins.—The frequency of the discharges from the bowels and bladder requires a frequent change of napkins. A nurse cannot be too careful of this duty from the first, so that she may be enabled to discover the periods when these discharges are about to take place, that she may not only anticipate them, but teach the child, at a very early age, to give intelligent warning of its necessities. Thus a habit of regularity with regard to these functions will be established, which will continue through life, and tend greatly to the promotion of health. As the child grows older, the system of cleanliness must in no particular be relaxed; the hair must be regularly brushed and combed, and the ears, the eyes, the nose, and the openings of the passages from the interior of the body, as well as the surface of the skin generally, must be kept perfectly clean. The careful adoption of these means will be found the best preservative against those eruptive disorders which are so frequent and troublesome during the period of infancy.

During Childhood.—When the second period or that of childhood arrives, bathing is but too frequently left off; the hands and face of the child are kept clean, and with this the nurse is satisfied; the daily ablution of the *whole* body, however, is still necessary, not only for the preservation of cleanliness, but because it promotes in a high degree the health of the child.

[1] Letters to a Mother on the Watchful Care of her Infant, p. 89

Plan to be pursued with the vigorous and healthy.—A child of a vigorous constitution and robust health, as he rises from his bed refreshed and active from his night's repose, should be put into the shower-bath, or if this excites and alarms him too much, must be sponged from head to foot with salt water. If the weather be very cold, the water may be made slightly tepid, but if his constitution will bear it, the water should be cold throughout the year. Then the body should be speedily dried, and hastily but well rubbed with a somewhat coarse towel, and the clothes put on without any unnecessary delay. This should be done every morning of the child's life.

If such a child is at the sea-side, advantage should be taken of this circumstance, and sea-bathing should be substituted. The best time is two or three hours after breakfast; but he must not be fatigued beforehand, for, if so, the cold bath cannot be used without danger. Care must be taken that he does not remain in too long, as the animal heat will be lowered below the proper degree, which would be most injurious. In boys of a feeble constitution, great mischief is often produced in this way. It is a matter also of great consequence in bathing children that they should not be terrified by the immersion, and every precaution should be taken to prevent this. The healthy and robust boy, too, should early be taught to swim, whenever this is practicable, for it is attended with the most beneficial effects; it is a most invigorating exercise, and the cold bath thus becomes doubly serviceable.

Plan to be pursued with the delicate and strumous.—If a child is of a delicate and strumous constitution, the cold bath during the summer is one of the best tonics that can be employed; and if living on

the coast, sea-bathing will be found of singular benefit. The effect, however, of sea-bathing upon such a constitution must be particularly watched, for unless it is succeeded by a glow, a feeling of increased strength, and a keen appetite, it will do no good, and ought at once to be abandoned for the warm or tepid sea-water bath. The opinion that warm baths generally relax and weaken is erroneous; for in this case, as in all cases were properly employed, they would give tone and vigour to the whole system; in fact, the tepid bath is to this child what the cold bath is to the more robust.

In conclusion: If the bath in any shape cannot from circumstances be obtained, then cold salt-water sponging must be daily used, and all the year round, so long as the proper reaction or glow follows its use; but when this is not the case—and this will generally occur if the child is delicate and the weather cold—tepid vinegar and water, or tepid salt water, must be substituted.

Sect. 4.—Clothing.

In Infancy.—*Infants* are very susceptible of the impressions of cold; a proper regard, therefore, to a suitable clothing of the body is essential to their enjoyment of health. Unfortunately an opinion is prevalent, that the tender child has naturally a great power of generating heat and resisting cold; and from this popular error has arisen the most fatal results. This opinion has been much strengthened by the insidious manner in which cold operates on the frame, the injurious effects not being always manifest during or immediately after its application, so that but too frequently the fatal result is traced to a wrong source,

or the infant sinks under the action of an unknown cause. It cannot be too generally known that the power of generating heat in warm-blooded animals is at its minimum at birth, and increases successively to adult age—that young animals, therefore, instead of being warmer than adults, are generally a degree or two colder, and moreover part with their heat more readily. These facts show how absurd must be the folly of that system of 'hardening' the constitution, which induces some parents to plunge the tender and delicate child into a cold bath at all seasons of the year, and freely expose him to the cold cutting currents of an easterly wind in the lightest clothing; cruel as absurd.

The principles which ought to guide a parent in clothing her infant are as follows:—

The material and quantity of the clothes should be such as to preserve a sufficient proportion of warmth to the body, regulated therefore, by the season of the year, and the delicacy or strength of the infant's constitution. In effecting this the parent must avoid the too common, but frequently fatal practice of leaving bare, at all seasons of the year, the neck and upper part of the chest and arms of her little one; such exposure in damp and cold weather being a frightful source of croup, inflammation of the lungs, and other serious complaints. At the same time a prevalent error in the opposite extreme must be guarded against—that of enveloping the child in innumerable folds of warm clothing, and keeping it constantly confined to very hot and close rooms; since nothing tends so much to enfeeble the constitution, to induce disease, and render the skin highly susceptible of the impressions of cold, and thus produce those very ail-

ments which it is the chief intention to prevent. The infant's clothing should possess lightness as well as warmth, and therefore flannel and calico are the best materials to use. The skin, however, in the early months is so delicate, that a shirt of fine linen must at first be worn under the flannel; but as the child grows older, the flannel is desirable next the skin, giving by its roughness a gentle stimulus to it, and thus promoting health. When a child is at all disposed to bowel complaints, flannel is indispensable.

They should be so made as to put no restrictions to the free movements of all parts of the child's body—so loose and easy as to permit the insensible perspiration to have a free exit, instead of being confined and absorbed by the clothes, and held in contact with the skin till it gives rise to irritation. Full room too should be allowed for growth, which is continually and rapidly going on; and particularly should this be the case round the throat, armholes, chest, and wrists, so that they may be easily let out. The construction of the dress should be so simple as to admit of being quickly put off and on, since dressing is irksome to an infant, causing it to cry, and exciting as much mental irritation as it is capable of feeling. Pins should be wholly dispensed with, their use being hazardous through the carelessness of nurses, and even through the ordinary movements of the infant itself. This leads me to make one general remark applicable not only to the clothing, but also to other circumstances in the economy of an infant—*the babe can itself give no explanation of the inconveniences it suffers.* 'Bearing this in mind, and remembering how continually adults are annoyed by trifles which they have the perception to discover, and the ability to

remove, it will readily be acknowledged that nothing is too insignificant for the constant and regular attention of a mother. For example, 'articles of dress contract, or otherwise lose their shape; a ruck forms, a hook bends, or a button turns and presses upon the flesh: any one of these accidents occasions pain, and frets the temper of an infant.'

The clothing should be changed daily; this is eminently conducive to health. There should always too be an immediate change of wet and soiled linen, for that which is fresh and dry. Unless these directions are attended to, washing will, in a great measure, fail in its object, especially in insuring freedom from skin diseases. The wardrobe, therefore, must be sufficiently large to admit of this; and where pecuniary means are not abundant, the mother, in making her baby linen, should remember that quantity is more important than quality.

With regard to caps: I strongly advise that they be discarded. The head should be kept cool, not warm; if from any special cause it seem desirable to adopt their use, let them be made of the thinnest linen or cambric.

During the first few months, the child's clothes extend considerably beyond the legs and feet, and they are thus effectually protected from cold and variations of temperature. It is usual to shorten at about three months of age in summer, and at four months in winter. From this time, when short-coating, as it is styled, is commenced, cotton or fine flannel socks should be put on in warm weather, and fine angola stockings during cold weather. Shoes also must now be worn, made of light and pliable materials, and large enough to prevent all constraint to the feet; neither too roomy, nor too tight. Some persons object to the

use of shoes, believing that they interfere with the child's learning to walk; if, however, they are large, and of pliant materials, this cannot be; whilst it must be remembered, on the other hand, that they are useful not only in protecting the feet from cold, but from injury also, for accidents from pins and needles running into the feet are not at all uncommon where children are allowed to walk without them.

In Childhood.—The clothing of *childhood* should possess the same properties as that of infancy. It should afford due warmth, and yet be light, and so made as to occasion no unnatural constriction. In reference to due warmth, it may be well again to repeat, that too little clothing (that state of semi-nudity which the vanity of some parents encourages) is frequently productive of the most sudden attacks of active disease; and that children who are thus exposed, with naked breasts and thin clothing, in a climate so variable as ours, are the frequent subjects of croup and other dangerous affections of the air-passages and lungs. It has been said, and I believe with great truth, that the foundation of pulmonary consumption is often thus laid, during the first few years of life. On the other hand, do not forget that too warm clothing is also a source of disease, sometimes even of the same diseases which originate in exposure to cold, and often renders the frame more susceptible of the impressions of cold, especially of cold air taken into the lungs. Regulate the clothing, then, according to the season; resume the winter dress early, and put it aside late; for it is in spring and autumn that these vicissitudes in our climate are greatest, and congestive and inflammatory complaints most common.

There is one point to which I must call especial

attention, that is, to the very bad habit of allowing children—both boys and girls—to wear low dresses, by which the roots of the neck and the upper part of the chest are left absolutely bare. I have over and over again seen the dress fit so loose, and cut so low, that the chest was bared as low down as the armpits. Now it must be remembered that the upper part of the chest is the weaker part, and that in a large proportion of cases of consumption the disease begins here, that is, just below the collar-bones. It is therefore most unwise to leave this part unprotected at a time when it has most need of being carefully covered up. This applies with even greater force to such children as may inherit a consumptive or scrofulous tendency from their parents; but it alone will frequently give rise to those changes which ultimately destroy the lungs, even when there is no hereditary taint in the family whatever. I advise, therefore, that the dress be so made that the collar-bones are well covered up; and especially would I caution against the use first of a high dress and then of a low one, with no other apparent guide than the mere fancy or whim of the moment.

With regard to *material* (as was before observed), the skin will generally long before this period bear flannel or fleecy hosiery next to it; and it is not only proper that it should be continued, but necessary. It may be put off with advantage during the night, and cotton may be substituted during the summer, the flannel being resumed early in the autumn. If, in any given case, flannel proves too irritating to the skin, fine fleecy hosiery will in general be easily endured, and will greatly conduce to the preservation of health.

It is highly important that the clothes of the boy should be so made that no restraint shall be put on the movements of the body or limbs, nor injurious pressure made on his waist or chest. All his muscles ought to have full liberty to act, as their free exercise promotes both their growth and activity, and thus ensures the regularity and efficiency of the several functions to which these muscles are subservient. For this reason long drawers and socks should be worn, which avoids the necessity of garters.

The same remarks apply with equal force to the dress of the girl; and happily, during childhood at least, no distinction is made in this matter between the sexes. Not so, however, when the girl is about to emerge from this period of life: a system of dress is then but too frequently adopted which has the most pernicious effects upon her health and the development of the body—the employment of tight stays, which impede the free and full action of the respiratory organs, being only one of the many restrictions and injurious practices from which in later years she is thus doomed to suffer so severely. But the course pursued, and its terrible consequences, will be dwelt upon in the next section on Exercise.

Sect. 5.—Air and Exercise.

During Infancy.—The importance of pure air in the apartments of children was pointed out in the early part of this chapter. I have here only to speak of open-air exercise. Daily experience proves how invigorating and vivifying is its influence upon the system of the young. We must, however, act prudently in this matter. A delicate infant, born late in the autumn, will scarcely be able to be taken out,

in a changeable climate like ours, before the succeeding spring, and provided its apartments are large, often changed, and well ventilated, he will not suffer from the confinement. No opportunity, however, should be lost, if the child be strong and healthy, of taking him into the open air at stated periods. At all seasons, however, regard must be had to the state of the weather. To a damp condition of the atmosphere the infant should never be exposed, it is one of the most powerful exciting causes of consumptive disease; and the same caution is necessary in reference to an easterly wind, being more productive, I believe, of inflammation of the lungs (so frequent in childhood) than any other cause. The nurse should always have strict orders not to loiter and linger about, exposing the infant: the source frequently of a twofold evil, a moral one to herself, and a physical one to her charge.

Exercise, also, like air, is essentially important to the health of the infant. Its first exercise, of course, will be in the nurse's arms: and here I would observe, that *the mode of carrying* an infant must be carefully attended to. Upon this subject I cannot do better than quote the words of Dr. Eberle; he remarks, 'The spine and its muscles seldom acquire sufficient strength and firmness, before the end of the third month, to enable the child to support its body in an upright position, without inconvenience or risk of injury. Until this power is manifestly acquired, the infant should not be carried or suffered to sit with its body erect, without supporting it in such a manner as to lighten the pressure made on the spine, and aid it in maintaining the upright posture of its head and trunk.' He accordingly advises that 'at first (a few days after birth) the infant should be taken from its

cradle or bed two or three times daily, and laid on its back, upon a pillow, and carried gently about the chamber.' . . . 'After the third or fourth week, the child may be carried in a reclining posture on the arm of a careful nurse, in such a way as to afford entire support to the body and head. This may be done by reclining the infant upon the fore-arm, the hand embracing the upper and posterior part of the thighs, whilst its body and head are supported by resting against the breast and arm of the nurse. When held in this way, it may be gently moved, from side to side, or up and down, while it is carefully carried through a well-ventilated room.' This plan of passive exercise must be followed until the completion of the third month, when the child will have acquired a sufficient power to maintain itself in a sitting posture. In this position it may be carried about for a short time twice or thrice daily, provided the spine and head be supported by the nurse—'an aid which can seldom be prudently dispensed with before the child is six or seven months old.'[1]

In the meantime, when two or three months old, and it begins to sleep less during the day, the infant will greatly enjoy being occasionally placed upon a soft mattress or sofa, and allowed to roll and kick about at its pleasure. Such exercise will tend much to develope the powers of its muscular system; it will also learn to use its limbs and walk earlier than if deprived of this freedom of action.

It is a very common practice for a nurse to support a young infant upright on her knee, and violently to jolt it up and down—violently, indeed, considering

[1] Eberle on the Diseases and Physical Education of Children, p. 45.

the delicate structure of the infant's frame. This is done thoughtlessly, and in the belief that it is a source of enjoyment, instead manifestly of inflicting pain on the child. Gentle and cautious tossing, or rather dandling to and fro, is really agreeable to a child, and can never, therefore, be objectionable; but the rough treatment alluded to, a mother must carefully prevent. The same precaution it is necessary to observe in regard to the rocking an infant in a cradle. I believe that gentle and cautious rocking is a soothing and useful exercise to a child; but it is quite otherwise when rough, and long continued.

By-and-by the child will make its first attempts to walk. Now, it is important that none of the many plans which have been advised to teach a child to walk should be adopted—the go-cart, leading-strings, and contrivances of this sort; their tendency is mischievous; and flatness of the chest, confined lungs, distorted spine, and deformed legs, are so many evils which often originate in such practices. This is explained by the fact of the bones in infancy being comparatively soft and pliable, and if prematurely subjected by these contrivances to carry the weight of the body, they yield just like an elastic stick bending under a weight, and as a natural consequence become curved and distorted. It is highly necessary that the young and inexperienced mother should recollect this fact, for the early efforts of the child to walk are naturally viewed by her with so much delight, that she will be apt to encourage and prolong its attempts, without any thought of the mischief which they may occasion; thus many a parent has had to mourn over the deformity which she has herself created. It may be as well here to remark, that

if such distortion is timely noticed, it is capable of correction, even after evident curvature has taken place. It is to be remedied by using those means that shall invigorate the frame and promote the child's general health (a daily plunge into the cold bath, or sponging with cold salt-water, will be found signally efficacious), and by avoiding the original cause of the distortion—never allowing the child to get upon his feet. The only way to accomplish the latter intention is to put both the legs into a large stocking; this will effectually answer the purpose, while, at the same time, it does not prevent the free and full exercise of the muscles of the legs. After pursuing this plan for some months, the limbs will be found no longer deformed, the bones to have acquired firmness, and the muscles strength; and the child may be permitted to get upon his feet again without any hazard of renewing the evil.

The best mode of teaching a child to walk is to let it teach itself, and this it will do readily enough. It will first learn to crawl; this exercises every muscle in the body, does not fatigue the child, throws no weight upon the bones, but imparts vigour and strength, and is thus highly useful. After a while, having the power, it will wish to do more: it will endeavour to lift itself upon its feet by the aid of a chair, and though it fail again and again in its attempts, it will still persevere until it accomplish it. By this, it learns, first, to raise itself from the floor; and secondly, to stand, but not without keeping hold of the object on which it has seized. Next it will balance itself without holding, and will proudly and laughingly show that it can stand alone. Fearful, however, as yet of moving its limbs without

support, it will seize a chair or anything else near it, when it will dare to advance as far as the limits of its support will permit. This little adventure will be repeated day after day with increased exultation; when, after numerous trials, he will feel confident of his power to balance himself, and he will run alone. Now time is required for this gradual self-teaching, during which the muscles and bones become strengthened, and when at last called upon to sustain the weight of the body, are fully capable of doing so.

Of late an American invention, called the Infant Gymnasium, or Baby Jumper, has come into use. It is an apparatus for the self-exercising of young children, invented by Mr. Rogers, of New York. It would seem to afford a harmless and healthful mode of exercise, and, from all accounts, an exceedingly grateful one.

During Childhood.—When the child has acquired sufficient strength to take active exercise, he can scarcely be too much in the open air; the more he is habituated to this the more capable will he be of bearing the vicissitudes of the climate. Although children should be permitted to indulge freely in exercise and active amusement, during their daily excursions in the open air, constant care ought to be had that they do not *lie down or sit on the cool and damp ground*, or in a strong current of air in the shade, when they are *in a state of perspiration from exercise*; nor should they, on any account, be permitted to drink *cold water* except in very small portions, and at considerable intervals, when in this heated condition. Nurses and servants should be especially instructed upon this point; and the chil-

dren, too, when old enough to comprehend. Children, too, should always be allowed to amuse themselves at pleasure, for they will generally take that kind and degree of exercise which is best calculated to promote the growth and development of the body. In the unrestrained indulgence of their youthful sports, every muscle of the body comes in for its share of active exercise; and free growth, vigour, and health are the result.

If, however, a child is delicate and strumous, and too feeble to take sufficient exercise on foot—and to such a constitution the respiration of a pure air and exercise are indispensable for the improvement of health, and without them all other efforts will fail—riding on a donkey or pony forms the best substitute. This kind of exercise will always be found of infinite service to delicate children; it amuses the mind, and exercises the muscles of the whole body, and yet in so gentle a manner as to induce little fatigue. The exercises of horseback, however, are most particularly useful where there is a tendency in the constitution to pulmonary consumption, either from hereditary or accidental causes. It is here beneficial as well through its influence on the general health as more directly on the lungs themselves. There can be no doubt that the lungs, like the muscles of the body, acquire power and health of function by exercise. Now during a ride this is obtained, and without much fatigue to the body. The free and equable expansion of the lungs by full inspiration necessarily takes place; this maintains their healthy structure, by keeping all the air-passages open and pervious; it prevents congestion in the pulmonary circulation, and at the same time provides

more completely for the necessary chemical action on the blood, by changing, at each act of respiration, a sufficient proportion of the whole air contained in the lungs—all objects of great importance, and all capable of being promoted, more or less, by the means in question.

And be it remembered that these remarks apply with equal force to the girl as to the boy. She should be allowed, and even encouraged, to take the same active exercise. Fortunately, this course is followed during childhood; not so, unfortunately (in the majority of cases, at least), after this period. Young females are then subjected to those unnatural restraints, both in exercise and dress, which fashion and vanity impose, to be followed by effects which, though not immediately obvious, are capable of laying the foundation of evils that cannot afterwards be remedied. *A good carriage* is the point aimed at (and to which I particularly refer), and the means adopted for its cultivation fail, after all, in their end just in proportion to their rigid employment. For this purpose the head is kept erect, and the shoulders drawn back, and they are to be kept in this position not for an hour or so, but continually. To preserve, however, this unnatural and restrained position, 'requires considerable muscular powers, such as no girl can exercise without long, painful, and injurious training; nor even by this, unless other measures be resorted to in aid of her direct endeavours.' For instead of the muscles obtaining increased power and strength by these efforts (to enforce a good carriage), they are enfeebled, and soon become more and more incapable of performing what is required of them. 'This fact soon becomes perceptible; weakness is noticed; but instead

of correcting this by the only rational mode, that of invigorating the weakened muscles, mechanical aid is called in to support them, and laced waistcoats are resorted to. These undoubtedly give support—nay, they may be so used as almost wholly to supersede the muscular efforts with the advantage of not tiring, however long or continuously employed. Improvement of carriage is manifested, the child is sensible of relief from a painful exertion, the mother is pleased with the success of her management, and this success appears to superficial observation fully to confirm the judgment which superintends it. Yet what are the consequences to which her measures tend, and which such measures are daily and hourly producing? The muscles of the back and chest, restrained in their natural and healthful exercise by the waistcoat called in to aid them, and more signally in after-life by the tightly-laced stays or corset, become attenuated, and still further enfeebled, until they are wholly dependent on the mechanical aid, being quite incapable of dispensing with it for any continuance.'

By-and-by a *taper waist* becomes an object of ambition, and the stays are laced more closely than ever. This is still done gradually, and at first imperceptibly to the parties. The effect, however, though slow, is sure; and the powers of endurance thus exercised, come in time to bear, almost unconsciously, what, if suddenly or quickly attempted, no heroism could possibly sustain. This increased pressure impedes the motion of the ribs. 'For perfect respiration these motions should be free and unrestrained, and perfect respiration is necessary to those changes in the blood which fit it for nutrition, and the other purposes of the animal frame. In proportion as respiration is

impeded, is the blood imperfectly vitalised, and in the same ratio are the nutrient and other functions dependent on the blood inadequately performed. Here, then, is one source of debility, which affects the whole frame, reducing every part below the standard of healthful vigour.' Quickened respiration soon ensues, the heart becomes excited, the pulse accelerated, and palpitation is in time superadded.

There are still further evils produced by tight lacing. For the pressure being chiefly made on the lower part of the chest, the stomach and liver are necessarily compressed, to the great disturbance of their functions; and, being pressed downwards too, these trespass on that space which the other abdominal viscera require, superinducing still further derangements. Thus almost every function of the body becomes more or less impeded. And again, the girl not being able always to have her body eased in the tight-laced stays, some relaxation must take place. 'Under it the muscles of the back, deprived of their accustomed support, and incapable of themselves to sustain the incumbent weight, yield, and the column of the spine bends, at first anteriorly, causing round shoulders and an arched back; but eventually inclines to one or other side, giving rise to the well-known and too frequently occurring state of lateral curvature. This last change most frequently commences in the sitting posture, such females being, through general debility, much disposed to sedentary habits.' Such, though but very slightly sketched, are a few of the evils attending this baneful practice.

But how, then, is a good carriage to be obtained; which is not only pleasing to the eye, but is, when natural, absolutely conducive itself to health? 'To

insure a good carriage, the only rational way is to give the necessary power, especially to the muscles chiefly concerned; and this is to be done, not by wearying those muscles by continual and unrelieved exertion, but by invigorating the frame generally, and more especially by strengthening the particular muscles through varied exercise alternated with due repose. Attention to general health, suitable diet, regular bowels, moderate but regular exercise, not of particular muscles only, but of the whole frame, cold-bathing or sponging and other such measures, will maintain a good carriage, by giving that power which the more direct means so generally practised serve but to exhaust.' In these few remarks on 'a good carriage,' I have drawn freely from a valuable article of Dr. Barlow's in the 'Cyclopædia of Practical Medicine.'

I cannot close this chapter on air and exercise without a few words on the advantage of systematic drilling by an experienced drill-master. In schools, both for boys and girls, there is usually a drill-master, but drilling is not considered an essential part of the education, and only a few 'go in for it.' Now I would advise that drilling be made obligatory: there is nothing which so helps to the production of a fine, well-developed figure as a systematic drilling, and when conducted by an experienced master, the muscles are trained individually as well as collectively, and the result is, as may be seen among our soldiers, a fine, manly figure, with a broad and deep chest. Such training is infinitely more useful than either reclining-boards, or stays, or any of the means which tend to prop up the body artificially, but which fail to supply the strength necessary for the purpose.

CHAPTER VI.

OF MEDICINES: THEIR USE AND ABUSE.

In almost every nursery some medicines are kept, which are given to the children more or less frequently as their trifling ailments occur. And there is no objection to this, provided due care and judgment are exercised by those who administer them, and only those medicines are kept and given which may be resorted to with safety. Unfortunately this is not the case in all families; and then what misery and destruction to health does the nursery medicine-chest produce! slowly perhaps, but not the less surely. If, however, it be granted, that a young mother is not to send for the physician for every trifling ailment of her little ones, and surely no one would insist on this, then it is also very plain that there is a certain amount of information in the way of caution as well as instruction about medicine and remedies of which she ought not to be ingorant. For example, it is not required of her to seek her medical attendant every time her infant needs a dose of castor oil—but then she surely ought to know something about the quantity of this drug that it is proper to exhibit, as well as the best and least disagreeable form in which it may be given. Then, again, in reference to the making of so simple a matter as a bread-and-water poultice, this is either one of the most comforting and useful of

local remedies, or most irritating and useless, according as it is well or ill made: no mother, therefore, ought to be ignorant how to make it; and yet few possess this knowledge. But more than this, in times of real illness, to carry out the prescriptions of the medical adviser himself requires a certain amount of information bearing upon the preparation and application of remedial agents—such, for instance, as leeches, blisters, and baths—which it is most important and necessary the parent should be furnished with. It would therefore appear desirable to say a few words even upon medicine and remedies, with which a mother should make herself familiar, that she may not only administer to the trifling ailments of her children with safety, but that she may be enabled efficiently to comply with the prescriptions of the medical attendant, when disease of a serious character attacks them.

Here perhaps is the best and most appropriate place to remark upon the *mode* of administering medicine to children. There is great difficulty sometimes in getting a child to take its medicine. I believe this in most instances to be the fault of the parent. If you are only *firm* in your manner, as well as kind, you will always succeed, unless with a very obstinate child indeed. With such there is only one resource, and that is the employment of the medicine spoon, the invention of Dr. A. T. Thomson, by whom it is thus described: 'It consists of a spoon with a hollow handle opening at the top, and also into the bowl of the spoon, which is covered with a hinged lid, but is open at the apex. The spoon is made in the form of a wedge, in order to force the teeth apart when resistance is made to its introduction into the mouth: and it is rounded

at the corner to avoid injuring the tongue and gums. When any fluid is poured into the spoon, and the lid shut down, the pressure of the atmosphere upon the fluid, at the opening near the apex, prevents it from running out of the spoon, as long as the orifice at the upper end of the handle is firmly compressed by the thumb of any person; but as soon as the thumb is removed, the fluid is projected with considerable force from the spoon. When the spoon is to be used, the head of the child must be steadied by an attendant, who should also compress the nostrils, which obliges the mouth to be opened for the facility of breathing. The spoon is then to be introduced into the mouth of the child by another person holding it in one hand, and at the same time keeping down the arms of the child with his other hand. The back of the spoon is then to be gently pressed upon the tongue, and the thumb being removed from the opening of the handle, the air rushes in, and projects the medicine into the gullet, whence it is instantly conveyed into the stomach.'

Sect. 1.—Aperient Medicine.

One of the greatest errors of the nursery is the too frequent and indiscriminate exhibition by the mother or nurse of *purgative* medicine. Various are the forms in which it is given; perhaps, among a certain class the 'little powder' obtained from the chemist is the most frequent, as it is certainly the most injurious, from its chief ingredient being calomel. With such persons the choice of the aperient, or the dose; or the exact condition of the health, or whether it is an aperient at all that is required, are considerations which never for one moment enter their minds: a little medicine is thought necessary, because it is evident

the child is not well, and a purgative or a little white powder is forthwith given. For instance, I have known a nurse thoughtlessly give a large dose of magnesia to an infant that had been suffering from a diarrhœa of some days' standing, and cause death. Now this medicine is one of the most useful and harmless that can be given to a child when it is really indicated, and in a dose suited to the age, and when the proper time is fixed upon for its exhibition; in the foregoing case everything forbade its use: but none of these points were considered. Again, a mother frequently falls into the common error of repeating aperient medicine to remove those very symptoms which its exhibition has produced. Some incidental pain and uneasiness, some slightly greenish appearance of the motions, leads to the belief that more purging is necessary, when in fact both circumstances have probably been induced by the irritation caused by the purgatives already too freely administered. How often is this the case during the first week or ten days of the infant's life, when the nurse doses the child with tea-spoonful after tea-spoonful of castor oil, for the relief of pain, *which her repeated doses of medicine have alone created!* It would be well if all who have the management of children were to remember, whenever they open the medicine-chest, that 'the great art of medicine is the proper application of the proper medicine in the proper dose at the proper time.'

I must here remark that in *some* cases of costiveness, aperient medicines are quite out of place, and tend to make matters worse rather than to relieve them. It is due to deficient nervous supply, and requires tonics for its cure. In such cases the family doctor should be called in. There are also other causes, such

as water on the brain, and also mechanical impediments, each of which requires appropriate treatment.

For the information of a young mother it is important to mention that the bowels of an infant in health should be relieved two or three times in the twenty-four hours; that the stools should be of the consistence of thin mustard, of a lightish yellow colour, free from any fetid or acid smell, destitute of lumps or white curdy matter, and passed without pain or any considerable quantity of wind: and that as the child grows older, while the stools diminish in number, they become darker in colour.

The following purgatives are the only ones that ought to be found in the nursery; and they may be given with perfect safety by the parent, either alone or in the combination prescribed, provided always the directions laid down are attended to.

Castor Oil.—A mild aperient, prompt in its action and effective; it is a medicine, therefore, particularly applicable to infants. It has this great advantage, too, over other purgatives; that while they generally cause, after their action is passed off, a confined state of the bowels, this leaves them relaxed. *The dose* will depend upon the age and the known effects of aperient medicine upon the child; some requiring more, others less. As a general rule, one or two tea-spoonfuls. To cover its unpleasant flavour it may be given in various ways: either mixed in warm milk; or floating on peppermint, mint, or some other aromatic water. Or, if the stomach is unusually delicate, it may be made into the following emulsion, of which give a dessert-spoonful or more, according to the age, every hour until it operates:— Take of castor oil, six drachms; the yolk of an egg; dill water, two ounces; loaf-sugar, two drachms; mix intimately.

For overcoming *habitual costiveness* no medicine can be so much relied upon as castor oil. It may for this purpose be given daily for some weeks, gradually reducing the dose until only a few drops be taken; after which the bowels will generally continue to act without further artificial assistance.

During teething, when there is a sluggish state of the bowels, castor oil is a very useful remedy. I am in the habit, however, in this case, of prescribing it in combination with magnesia, in a form which I owe to Dr. Eberle, and which is so certain and mild in its operation, while it is really pleasant to the taste, that I find children take it with little or no reluctance. The following is the form, of which give one or two tea-spoonfuls for a dose, and repeat it if necessary:—Take of castor oil, one ounce; calcined magnesia, two drachms; loaf-sugar, three drachms; oil of anise, two drops; mix intimately.

Manna.—This also may be given with impunity to the youngest infant; it is sweet to the taste, and mild in its operation. *The dose* is from one to three drachms. It may be given in a little warm milk: or, if it cause flatulence in this form, in some aromatic water, as a dessert-spoonful of caraway seed or dill water. For children above two years, it must always be given with some other aperient; thus it may be combined with castor oil by the medium of mucilage or the yolk of an egg: in fact, it might be substituted for the white sugar in the previous prescription for castor oil.

Magnesia and Rhubarb.—*Magnesia*, besides being a laxative, allays irritability of the stomach; it is consequently useful during dentition, at which period there is both much irritability and a prevailing accescency

of the stomach. *The dose* is from five grains to ten for an infant, increasing the quantity to fifteen grains or twenty to children of nine or ten years of age. When taken alone the best vehicle is hot milk, which greatly quickens its aperient operation. And whenever the bowels are distended with wind, the pure magnesia is preferable to the carbonate. It is well to mention here, that when the infant throws up the nurse's milk it is generally curdled; a fact which leads the inexperienced mother to infer that the child is suffering from acidity; and to counteract the supposed evil magnesia is given again and again. This is a useless and pernicious practice, for curdling or coagulation of the milk always takes place in the stomach, and is produced by the gastric juice, and is so far from being a morbid process, that milk cannot be properly digested without it.

Rhubarb, it should always be recollected, has an astringent as well as purgative property, according to the extent of the dose in which it is administered; the former of which never opposes or interferes with the energy of the latter, since it only takes effect when the substance is administered in small doses, or, if given in larger ones, not until it has ceased to operate as a cathartic. This latter circumstance renders it particularly eligible in mild cases of diarrhœa, as it evacuates the offending matter before it operates as an astringent upon the bowels. As a purgative it operates mildly, and may be given to the youngest infant; if from two to twelve months old, from three to six grains; for children above that age, the dose may range from ten grains to twenty. Its operation, however, is much quickened by the addition of magnesia; both of which are more effective when thus united

than when given separately. The following form, in a costive and flatulent state of the bowels, will be found useful; a tea-spoonful or more may be given every three or four hours, until the desired effect is obtained :—Take of powdered rhubarb, half a drachm; magnesia, two scruples; compound spirits of ammonia, twenty drops; dill water, two ounces; simple syrup, two drachms.

Purgative Biscuits.—For years, in some families, aperient medicine, when occasionally required, has been exhibited in this form. There can be no objection to this, if it lessen the child's *misery* in physic-taking; but these biscuits must be carefully made and carefully used. The Montpellier Hospital has the following formula, which, as its purgative quality is *jalap*, should not be given to very young children :—

Take an ounce of flour and an ounce of sugar, two eggs, and one drachm of powder of jalap; let three biscuits be made, a quarter of one of which will contain five grains of jalap; and may be taken once or twice a day according to the effect.

The following form for *castor-oil biscuits* may also be occasionally resorted to :—

Take a quarter of a pound of flour, two ounces of moist sugar, a small quantity of mixed spice finely powdered, and with an ounce and a half of castor oil, make the whole into the consistency of pie-crust; to which may be added a few currants. After rolling out the paste, divide into ten cakes, and bake over a quick oven. Each cake will contain rather more than a teaspoonful of oil, and one or more may be given, according to the age of the child. The same may be made into ginger-bread nuts by adding proper proportions of treacle and ground ginger.

The Enema (*Injection*).—This is an excellent nursery remedy when the bowels are obstinately costive.

It may then be employed as a substitute for medicine, a protracted and frequent use of which (even of the mildest aperients) is apt to injure the digestive functions, and to give rise to some degree of intestinal irritation. Injections, however, like aperient medicine, must not be resorted to for a long time together; for whilst the latter irritate, the former most certainly tend, after a long-continued use, to debilitate the bowels, and thus render them less than ever disposed to act for themselves. They are an excellent *occasional* remedy.

The simplest form of an aperient enema is warm water; but barley water, or thin gruel, or even milk and water, are to be preferred at all times, as they are of a more bland and less irritating nature. If it be desirable to increase the strength of the injection, castor oil may be added. The proportions of fluid which are necessary for the different stages of life under ordinary circumstances, may be stated as follows:— An infant at its birth requires about one fluid ounce; a child between the age of one and five years, from three to four fluid ounces; and a youth of ten or fifteen, from six to eight fluid ounces.

The mode of administering an injection to an infant deserves particular attention, as injury might be caused by its being performed in a careless or unskilful manner. A gum-elastic pipe should be always used instead of the hard ivory tube. Having smeared this over with lard, and placed the infant on its left side, with its knees bent up in the lap of the nurse, it is to be passed a couple of inches into the bowel, in a direction not parallel to the axis of the body, but rather inclined to the left. The latter circumstance should never be neglected, for if not attended to, there will be difficulty in administering the injection. The

fluid must then be propelled very gradually, or it will be instantly rejected; on the whole being thrown up (the pipe carefully and slowly withdrawn), the child must be kept quietly reposing on its nurse's lap, and in the same posture, for some little time.

The Aperient Liniment.—A liniment to be rubbed on the stomach is another resource in cases of habitual costiveness, and will frequently be attended with great success when repeated purgatives have been resisted.

Olive or castor oil may be used for this purpose; they must be warmed and rubbed over the abdomen night and morning, for five or ten minutes. Perhaps the best form of liniment that can be made use of is: one ounce of compound soap liniment mixed with half an ounce of compound tincture of aloes.

Sect. 2.—Calomel.

Calomel is one of the most useful medicines we possess; but though powerful for good, it is by no means powerless for mischief, and pages might be written upon the evil effects which have resulted from its indiscriminate use in the nursery; medical men are daily and hourly witnessing this fact. It is particularly eligible in the diseases of children; but then it is quite impossible *for unprofessional persons* to judge when it may be appropriately exhibited. And it cannot be too generally known, that the effect of this medicine upon the evacuations is always to make them appear unnatural. From ignorance of this fact, calomel is often repeated again and again to relieve that very condition which it has itself produced, causing but too frequently a degree of irritation in the delicate lining membrane of the bowel which it may be very difficult for a

medical man to remove, and perhaps a source of misery to the child as long as it lives. Its frequent exhibition has also another evil attending it, for 'the immoderate use of mercury in early infancy produces, more, perhaps, than any other similar cause, that universal tendency to decay, which, in many instances, destroys almost every tooth at an early age.'

In the diseases of childhood it is often administered by the mother or nurse with a degree of careless excess which ultimately, if not immediately, produces severe and irremediable injury. I have met with such cases; but Mr. Bell details a remarkable instance in point: 'A child, about three years of age, was brought to me, having a most extensive ulceration in the gum of the lower jaw, by which the alveolar process (that portion of the jaw which forms the sockets of the teeth) was partially denuded. The account given by the mother was, that the child had some time previously been the subject of measles, for which a chemist, whom she consulted, gave her *white powders*, one of which was ordered to be taken every *four hours*. It appears by the result that this must have been calomel; for, after taking it for two or three days, profuse salivation was produced, with swollen tongue, inflamed gums, &c., followed by ulceration of the gums, lips, and cheek. On examining the denuded alveolar process, I found that a considerable necrosis (death of the bone) had taken place, including the whole anterior arch of the jaw from the first double tooth on the left side to the eye-tooth on the right. By degrees the dead portion of bone was raised and became loose, when I found that the mischief was not confined to the alveolar process, but comprised the whole substance of the bone within the space just mentioned,' &c. Surely the knowledge

of such a case as this would induce every prudent mother to *exclude calomel from her list of nursery medicines*. The stimulating effects of mercury may be analogically illustrated by the stimulating effects of dram-drinking. As the stomach accustomed to ardent spirits will scarcely tolerate any weaker beverage; so the liver, accustomed to the stimulus of mercury, will hardly respond to any other influence. Those, therefore, who in early life have on all trivial occasions resorted to the powerful stimulus of mercury, like early dram-drinkers, are usually obliged to persist in the baneful habit. The truth of this analogy will be scarcely questioned; for the most superficial observer must have noticed, that patients who habitually take calomel are more than ordinarily subject to periodical congestions, or *biliary* attacks, as they are termed; and that such biliary attacks will rarely yield to any other remedy than calomel. Nor is the insensibility to gentler expedients, thus too often produced in the soundest constitutions by the use of mercury, its only fault; the habitual use of this remedy is capable of exerting positive mischief on the assimilating functions and on the kidneys of some individuals. Moreover, those who are under the influence of mercury in a degree far short of salivation, are notoriously liable to take cold, rheumatism, &c., from slight exposure; and various formidable and fatal diseases, as phthisis, &c., can be often distinctly traced to such exposure under the influence of mercury.

Sect. 3.—Opiates.

This class of medicine is often kept in the nursery, in the forms of laudanum, syrup of white poppies,

paregoric elixir, Dover's powder, Dalby's carminative, and Godfrey's cordial. The object with which they are generally given is to allay pain by producing sleep, or, perhaps much more frequently to allay the crying of a fretful child. They are, therefore, *remedies of great convenience to the nurse*; and so exhibited, they are *too often fatal.*

Even in the hands of the physician, there is no medicine the administration of which requires greater caution and judgment than opiates, both from the susceptibility of infants to their narcotic influence, and their varying capability of bearing it. The danger, therefore, with which their use is fraught in the hands of a nurse should rigorously exclude them from the list of nursery medicines.

It is calculated that *three-fourths* of all the deaths that take place from opium or its compounds occur in children *under five years of age.* The amount which will sometimes cause death is very small; a fact most important to remember, and of itself a powerful argument against its use *in any form by unprofessional persons.* It is very important to bear in mind that *infants and young persons* are liable to be killed by small drops of opium; they appear to be peculiarly susceptible to the effects of this *poison.* A case was reported in the 'Lancet,' in which an infant *seven days* old died in 18 hours from the effect of *one minim* of the tincture, which is equal to the *fifteenth part of a grain* of solid opium.

Syrup of Poppies.—This is nothing more than a sweetened decoction of poppy-heads. It is a most unsafe preparation, as its strength is so variable. Dr. Taylor, in his admirable work on Poisons, states that 'there is reason to believe the compound sold by some

druggists for syrup of poppies, as a soothing or cordial medicine for children, is nothing more than a mixture of tincture or infusion of opium with simple syrup; it is therefore of variable strength. Many cases of poisoning have occurred from the use of this preparation. The late Dr. Pereira states that he has known a tea-spoonful prove fatal to a healthy child. Dr. Taylor, in his work before alluded to, says: 'I have notes of two cases which occurred in 1871, in one of which a child, 18 weeks old, died in 26 hours from the effects of a tea-spoonful; and the other in which an infant 5 weeks old was killed by three-parts of a tea-spoonful of this syrup.'

Mrs. Winslow's Soothing Syrup (called also 'Quietness,') very much resembles syrup of poppies. A case of poisoning is related in the 'Pharmaceutical Journal' for June 1872, in which a child aged 15 months died after two doses of this 'quietness.' Another fatal case is reported in the 'British Medical Journal' for September 1873.

Dalby's Carminative.—This is a compound of several essential oils and aromatic tinctures in peppermint water, with carbonate of magnesia and tincture of opium. 'Accidents frequently occur from its use, partly owing to ignorance and partly to gross carelessness on the part of mothers and nurses.'

Godfrey's Cordial.—'This is chiefly a mixture of infusion of sassafras, treacle, and tincture of opium. In five years (1863–67) *fifty-six* deaths were recorded to have taken place from this compound.'

Paregoric, Dover's Powder, Black Drop, Battley's Sedative Solution, are all so many preparations of opium; and as such ought never to be prescribed by any but a qualified medical practitioner.'

Convulsions and epilepsy, without such fatal results as the foregoing, are not uncommon as the effect of a single dose of an opiate given unadvisedly; and by their continued and habitual use (and a lazy, unprincipled nurse, unknown to the parent, will very often resort to these medicines in some one or other form) a low, irritative, febrile state is produced, gradually followed by loss of flesh; the countenance becoming pallid, sallow, and sunken; the eyes red and swollen; the expression stupid and heavy, and the powers of the constitution, at last, becoming completely undermined. Such an object is to be seen daily among the poorer classes—the miniature of a sickly aged person; death soon follows.

The habit of administering opiates to young children has become prevalent to an alarming degree in the manufacturing counties, and to a considerable extent in rural districts. It is not confined to infants suffering from disease, but also extends to those in a state of health, in order to ensure their more easy management when the mother is absent from home. A respectable druggist in Manchester states: 'I sell in retail about five gallons per week of "quietness," and half a gallon of "Godfrey,"'[1] the former preparation being so strong as to contain 100 drops of laudanum in an ounce; a single tea-spoonful is the prescribed dose, so that, allowing one ounce weekly to each family, this one druggist supplies 700 families every week. It behoves parents residing in these districts to be more than usually careful to whom they entrust their children.

I think I need not say more, and I dare not have

[1] Second Report of the Commissioners on the State of Large Towns, &c., p. 454.

said less, concerning the use of sedatives and cordials. While fully conscious of the great advantages which can be obtained from the proper use of opium, I cannot but feel that the sale of this drug ought to be prohibited except to medical men. So-called 'patent' medicines which contain this drug ought to be abolished altogether; or if this measure be deemed too severe, the proprietors ought by law to be compelled to state the amount of opium which each recommended dose contains.

To such of my readers who consult this book for information and guidance, I will sum up the question of opiates in the following words. *To you and your child* OPIUM *in any of its preparations, unless prescribed by your medical practitioner, is nothing more or less than* POISON—*therefore have* NOTHING *to do with it.*

Sect. 4.—Leeches.

Leeches should never be employed unless ordered by the medical attendant; and when used, never let the young child see them: it can be easily prevented: and, as the sight of them generally gives alarm, it should be avoided. When applied to the chest for any inflammatory attack, expose as little of the surface during the time the leeches are drawing as possible, lest fresh cold should be given.

The mode of applying them.—First wash the part and dry it thoroughly. Then the readiest mode of applying the leeches is to take off the lid of the chip box in which they are sent, placing the mouth of the box on the part to which they are to be applied. Keep it steadily there for ten minutes, and then lift up the edge, and you will generally find that the leeches have taken. Next separate their tails from the bottom of

the box, and so remove it. If the leeches take well, at the expiration of twenty minutes or half an hour they will drop off, filled, having done their duty, with the exception, perhaps, of a solitary one still adhering, but idle. This should be at once separated, not by forcibly detaching it, but by means of a little salt being put on its head. It is a great mistake to allow a single leech to remain on for an hour or more after the others have dropped off, doing nothing, while it wearies and exhausts the child. The leech-bites are now to be sponged with warm water, or a bread-and-water poultice applied, as may have been directed by the medical attendant. In children, however, a poultice is seldom ordered; and so having been sponged for ten minutes, a pledget of lint is to be placed over the part, and steady pressure to be placed upon it, and kept up by the ends of the fingers for five or ten minutes, and subsequently by means of a bandage or otherwise—being always most careful not in any degree to disturb the lint. In general this quickly puts a stop to the bleeding.

The mode of arresting the bleeding.—Difficulty sometimes arises in putting a stop to the bleeding from leech-bites; a matter of considerable importance in the case of a delicate infant. And in order to prevent the serious consequences that sometimes happen from this source to children, the bleeding should always be stopped before the patient is left for the night. Again, it is always prudent to apply them only over some bone, so that pressure may be effectually applied. The following measures may be resorted to for arresting the bleeding when necessary:—

1. Expose the surface of the part to the external air, so that a coagulum of blood may form at the orifice: this simple mode will frequently arrest it.

2. If this fail, make compression upon the part: this is one of the most effectual means of restraining hæmorrhage. It is to be effected by placing a *small* portion of scraped lint over each leech-bite, and pressing on them with the points of the fingers (previously greased with cold cream, that they may not, when taken away, disturb the lint) for five or ten minutes. Or, if this fail, twine a very small piece of lint into a hard knot, so as to be less than a pea; and wiping the orifice quite clean of blood, place this little pad upon the bleeding point; then, taking advantage of the elasticity of the integument, draw a strip of adhesive plaster tight over it. The point to be observed in this application is, that the strip of plaster may be long enough to ensure a steady pressure of the pad by drawing up the integuments from a distance, by which the elastic quality of this structure gives a permanent pressure; but even this pressure should be confined as much as possible to the bleeding orifice.

3. If the compression fails in stopping the bleeding, or from the situation of the leech-bites it cannot be adopted, because there is no firm point of resistance upon which to make pressure, the part may be dusted with starch or gum-arabic powder; or, if this is of no avail, the wound may be touched with lunar caustic, which should be scraped previously to a fine point, for this purpose.

If none of these measures are successful, the assistance of the medical attendant must be obtained; and if firm pressure be made upon the part, no serious loss of blood can ensue before his arrival.

Leeches should never be resorted to by a parent for any of the diseases of infancy without medical direction.

Sect. 5.—Blisters.

A blister should never be resorted to for any infantile disease, except when ordered by a medical man, as its injudicious use might greatly aggravate the complaint. It should never be applied to any part where the skin is excoriated or broken. In applying it, it should be ascertained that it is really in contact with the skin; and, to secure this, the finger should be passed rather firmly over it, after it is put on, particularly round its edge. It should never be allowed to remain on longer than from two to four hours, at the expiration of which time the skin will generally be found red and inflamed; and if the plaister is removed, and the part dressed with spermaceti ointment or a bread-and-water poultice, a full blister will usually be found to rise in an hour or so after. This precaution is necessary, because, from the great irritability of the skin of the child, there is danger that not only the scarf-skin (as it is called) will be raised as a blister, but the true skin beneath will be destroyed. This would occasion great suffering, and cause a very troublesome sore, seriously affecting the health and strength of the child, and perhaps even put its life in jeopardy. This danger, however, may at all times be avoided, first by interposing between the blister and the child's skin a piece of tissue paper, to be previously moistened with almond oil—or if the oil is not at hand, by rubbing the surface of the paper with the point of a warm finger on that of the blistering ointment, and it will quickly become saturated with the grease it contains; and, secondly, whether the previous precaution is adopted or not, by carefully

raising the edge of the blister when it has been on two hours, and if the part looks red and inflamed, by at once removing it, particularly if there be already little points of vesication visible.

In dressing the blister great care should be taken in letting out the fluid not to tear the bladder. Having spread a piece of lint the size of the blistered part with spermaceti ointment, take a sponge previously softened by rinsing in warm water, and hold it just beneath the most dependent part of the fluid bladder. Make a snip at this part with the points of a sharp pair of scissors, and the fluid running out will be received by the sponge. If not entirely emptied, what is left may be carefully pressed out, and if this cannot be accomplished without another snip of the scissors, it must be made, but spare the skin as much as you can. The object of all this care of the scarf-skin is simply this: it protects the true skin beneath from the external air, which would dry its surface, render it very sore, and interfere with the ready healing of the blister. In four hours the blistered surface should be again looked to, and if any further accumulation of fluid has taken place, it must be let out as previously, and the sore must be again dressed. For the next twenty-four hours the dressing must be renewed every four hours, after which time, the inflammation having subsided, morning and evening will be often enough.

Sect. 6.—Poultices.

Bread-and-water Poultice.—Although this is one of the commonest applications in use, it is rarely well made or properly applied. It thus becomes injurious rather than useful; adding to the inflammation or

irritation of the part, instead of soothing and allaying it. Nothing, however, is more simple than the mode of its preparation. Scald a basin, and then pour boiling water into it. Cut the hard outsides from a sufficient quantity of stale bread, and crumble it into the water. Most of it will sink to the bottom. Those pieces which float are lumpy, and can be skimmed off with a spoon. Pour off the water and empty out the poultice on to a piece of linen which is to contain it, having previously laid this on a folded towel. This will drain the poultice of its superfluous moisture. Fold the edges of the linen a little over the edges of the poultice, and apply it just warm enough to be borne; then cover it with oil silk. A poultice thus made will form an exquisitely bland and soothing application to an inflamed surface; and the oil silk preventing evaporation, it will be found, when taken off, as moist as the first moment that it was put on.

Linseed-meal Poultice.—This is seldom made properly; the late Mr. Abernethy thus described how it ought to be made: 'Scald your basin,' he says, 'by pouring a little hot water into it; then put a small quantity of finely-ground linseed meal into the basin; pour a little hot water on it, and stir it round briskly until you have well incorporated them; add a little more meal and a little more water, then stir it again. Do not let any lumps remain in the basin, but stir the poultice well, and do not be sparing of your trouble. If properly made, it is so well worked together that you might throw it up to the ceiling, and it would come down again without falling in pieces; it is, in fact, like a pancake. What you do next is to take as much of it out of the basin as you may require, lay it on a piece of soft linen, let it be about a quarter of an

inch thick, and so wide that it may cover the whole of the inflamed part.'

Mustard Poultice.—This is an invaluable application in some of the diseases of infancy and childhood, and therefore frequently ordered. It is made as follows:—First mix two-thirds of mustard flour and one-third of wheaten flour, as much as you will require for your poultice. Then scald out a basin with boiling water; into this put your mixture of mustard and wheaten flour; pour a little hot water on it, stir it round, and add water sufficient to make it the consistence of thick paste. Then spread on soft linen, about a quarter of an inch thick, the size ordered, and apply next the skin. The time it is to be kept on will depend upon the individual sensibility of the skin of the child; but in general from fifteen to twenty minutes will be found amply sufficient. This application must at all times be carefully watched: for if it remain on too long, ulceration and even death of the part might ensue; therefore, directly the skin is found tolerably red, the poultice should be removed. After its removal, a soft piece of linen is to be put over the part, and if very painful it may be dressed with spermaceti ointment.

Sect. 7.—Baths.

Baths are much resorted to during infancy and childhood both in health and in disease. In the former state they constitute an important measure of hygiene (this has been briefly alluded to under the section 'Bathing'), and in the latter a valuable remedial agent. Their indiscriminate use, however, might be followed by serious consequences; it is therefore important to point out a few rules for their judicious employment.

Cold Water Plunge Bath.—It consists of water in its natural degree of heat; its temperature varying, according to the season of the year or other circumstances, from 30° to 36°.

The phenomena produced upon a strong and healthy boy plunging into this bath will be as follows:—He will first experience a sensation of cold, followed by slight shuddering, and, if the immersion has been sudden, a peculiar impression on the nervous system, called a shock. Almost immediately after the shock, the feeling of cold will vanish, and give place to a sensation of warmth, speedily diffusing itself over the whole frame. If the boy leaves the bath at this time, or, at all events, before the warmth of the body goes off, and quickly dresses himself, a renewal of the reaction which had followed the shock of immersion will be experienced; he will be in a most delightful glow—there will be a general feeling of enjoyment, accompanied by a sensible increase of animal power, and invigoration of the whole system. But, on the other hand, if the boy greatly prolong his stay in the water, no reaction will ensue, and he will become chilly, which will gradually increase to a strong and general shivering; his feet and legs will become benumbed, and the whole body will soon be languid, exhausted, and powerless. The same result will happen to the young and delicate infant, if plunged into this bath; the same sensations will be produced, except that here the shock is scarcely followed by any reaction, and therefore, from the first moment of the immersion the shivering and consequent train of sensations occur. This arises from the infant at birth having less power of producing heat than when further advanced in age.

From the foregoing remarks, then, it will be seen

that, *in early infancy*, the cold bath is inadmissible, and water of a higher temperature than that which feels cold to the hand of the nurse should always be used at this age; but that, as the child grows older—if of a healthy and vigorous constitution—the cold bath is unquestionably most desirable, and, if used in a proper manner, will be found to act as a most powerful tonic to the system. The summer is of course the only period of the year when the cold plunging bath can be resorted to for the child.

Sea Bathing.—When sea bathing can be obtained, it is even more conducive to the health of the child than the fresh-water plunge bath; for the sea water is more tonic, stimulant, and bracing than fresh. The period of the year best adapted for sea bathing is the summer and autumn. The best time of the day for bathing is two or three hours after breakfast; except in very hot weather, when an earlier hour must be chosen. Exercise is always useful previously to the bath; but it must be gentle, so as not to induce fatigue or much perspiration. Then the bath must be entered suddenly with a plunge, inasmuch as an instantaneous immersion produces a greater reaction than a gradual immersion. It is a matter of importance, however, in bathing children, that they should not be terrified by the immersion, and every precaution should be taken to prevent this. The length of time of remaining in will depend upon circumstances. One dip only is enough at the first bath. Subsequently the time of remaining in the water may be prolonged, but this must be increased gradually; the positive necessity of leaving the bath while there still remains sufficient power of reaction being always kept in mind. Exercise in the water, particularly that of swimming, is highly

useful. The body should be speedily and well dried, immediately upon coming out; a rough jack-towel is an excellent means of accomplishing this purpose, while at the same time it ensures considerable friction of the surface of the skin. If the boy is in sound health, he may bathe daily.

As a remedy, sea bathing is highly serviceable. Its employment, however, requires much caution, and great mischief is sometimes committed by its indiscriminate use.

In the child of a delicate and feeble habit, much out of health, whose general debility is dependent on some organic disease, sea bathing is not only improper but dangerous. Instead of being strengthened, such a child will be rendered more weak and debilitated. On the other hand, when the child is of a weak and relaxed habit, but free from organic disease, the cold bath will be highly useful, provided sufficient power of reaction exist in the system. In this case the skin and flesh of the child is relaxed and flabby; there is a great tendency to warm perspirations in bed, capricious appetite, confined or relaxed bowels, indisposition to exertion, and weariness from the slightest effort.

Shower Bath.—The effects of the shower bath are, on the whole, similar to those of the plunge bath of the same degree of temperature, except that the immediate shock of the shower bath is in general felt to be greater than that from simple immersion. This, however, may be met by putting warm water into the bottom of the bath in sufficient quantity to cover the ankles of the individual taking the bath, which tends at once to lessen the shock and to increase the reaction.

The apprehension and alarm experienced by young children on entering this kind of bath is easily over-

come, by using at first a modification of it lately brought into use. It consists of a tin vessel in the form of a large bottle, pierced at the bottom like a colander, and terminating in the upper part in a narrow tube, with an open mouth. When put into water it becomes filled, which is retained by closing the mouth of the tube with the finger; on removing which the water flows gradually out of the sieve-like bottom in a gentle shower. This may be used to the youngest child. At first the quantity of water employed should be small, and its temperature warm; as, however, the child grows older and accustomed to the bath, the former may be increased, and the latter lowered. Its tonic effect may be augmented, by the addition of bay salt, or of Tidman's sea-salt, and by vigorous rubbing. As the child gets older, the common form of shower bath may be used, and throughout the year, if he enjoy robust health; during the winter season, however, the water should be made tepid. This bath should be taken immediately upon rising from bed. A warm sheet to throw round the person of the child directly he comes out of the bath is always desirable in the winter months.

Ablution or Sponging.—By ablution is meant the process of applying water to the surface of the body by means of a sponge or towel. It is one of the best substitutes for the cold bath; and if done quickly and thoroughly, produces a glow and invigoration of frame almost equal to the former. It is also the surest preventive to catching cold.

Every child in health ought to be obliged every morning of his life (when other means of bathing cannot be obtained), upon rising, and while the body still retains all the warmth of the bed, to sponge the whole

body. If too young to do it for himself, it must be done for him. Tidman's sea-salt may be added to the water with advantage, and if the boy be robust, cold water may be used throughout the year; if not, in the winter season, it must be made tepid.

As a remedy, cold-water sponging, and the application of ice and iced water, are often ordered under certain states of disease by the medical attendant, and frequently followed by delightful results. But it is necessary that they should be properly applied to do good. *Cold-water sponging* is a convenient and grateful method of moderating febrile heat of the surface, provided undoubted powers of reaction be present in the system. It is frequently ordered, therefore, to be employed in eruptive fevers, as measles, scarlet fever, small-pox, and other fevers; and also in some local inflammations, particularly of the brain. Vinegar may be added to the water under these circumstances with advantage. It should at first be used tepid or cool, but afterwards cold. As a general rule, the more dry and parched the heat of the surface, the more urgent the necessity for the application of the cold, and the more frequently and fearlessly ought it to be renewed—every hour or half-hour not being too often. Should the child fall asleep during the process, and begin to perspire, it must be intermitted, but resumed again on a recurrence of the parching heat. *Ice and iced water* are most frequently employed in the affections of the brain. The former is most conveniently applied in a well-cleaned pig's bladder, which should be half filled with broken fragments of the ice. The bladder prevents moisture about the clothes, and, from its smooth and pliant nature, readily accommodates itself to every part of the child's head. If iced water is used, care must

be taken that the cloths are sufficiently large to cover the whole of the head, and they should be doubled to prevent their getting rapidly warm. Indeed, in applying cold locally, as in inflammation of the brain, one rule it is of the utmost importance to observe, viz., that the application of the cold shall be continuous; therefore a second set of cold cloths or bags of ice should be applied before the former has become warm. This plan, especially pursued during the night, along with judicious internal treatment, will save many children from perishing under the most insidious and fatal disease of childhood—water on the brain.

If neither water of a sufficiently low temperature nor ice can be procured, then recourse may be had to refrigerating mixtures, of which the following is a good form:—Common water, five pints; vinegar, two pints; nitre, eight ounces; sal ammoniac, four ounces.

Warm Bath.—The warm bath judiciously prescribed is one of the most valuable remedial agents we possess, and the means for promptly administering it should always be at hand; but although powerful for good, when misapplied it is equally powerful for mischief. In active inflammatory affections its use is often indispensable; in the early stage of croup, too, its aid is invaluable, as also in most of the inflammatory diseases of the respiratory organs. Again, nothing is more common than for a child, when attacked with convulsions, to be put immediately in the warm bath: and, generally speaking, it is extremely beneficial in this class of diseases; but it is sometimes no less prejudicial, when applied without due examination of the peculiarities of individual cases. For in plethoric and gross children, the local abstraction of blood from the head, and the complete unloading of the alimentary

canal, are often necessary to render such a measure beneficial, or even free from danger. In convulsions, however, and particularly when arising from teething, a parent may, without hesitation, at any time immerse the *feet* of the infant in water as warm as can be borne, at the same time that cloths wet with cold water are applied to the head and temples.

As a preventive, where there is a tendency to disease, the warm bath may be employed without scruple, and will be found most serviceable. Its value in this point of view is very great, and it is to be regretted that it is not sufficiently appreciated and used. For example, a severe cold has been taken and inflammation of the air tubes is threatened; only put the child into a warm bath, and, with the common domestic remedies, a very serious attack may be warded off. Again, in the commencement of a diarrhœa, a warm bath, and discontinuing the cause of the attack, will alone suffice to cure; and, moreover, in the protracted diarrhœa attendant upon teething, where, after various remedies have been tried in vain, the child has lost flesh and strength to an apparently hopeless degree, recovery has been brought about by the simple use of the warm bath.

The opinion that warm baths generally relax is erroneous; they are, no doubt, debilitating when used by persons of a weak and relaxed constitution or when continued too long; but, on the contrary, they invariably give tone when employed in the cases to which they are properly applicable.

There are certain *rules for the use of the warm bath*, which should be invariably acted up to. Their neglect might be followed by serious consequences.

Temperature of the Water.—When the warm bath is used as a *measure of hygiene*, as a general rule, any degree of temperature may be chosen between 92° and 98° which appears to be the most agreeable to the child; but on no account must 98° be exceeded. When ordered as *a remedial measure*, the temperature will of course be fixed by the medical attendant. The same degree of temperature must be kept up during the whole period of immersion. For this purpose the thermometer must be kept in the bath, and additions of warm water made as the temperature is found to decrease. These additions of warm water, however, must be regulated *by the thermometer*, and not by the feelings of the child or of the nurse.

Period of remaining in the Bath.—This must depend on circumstances. It must be varied according to the age of the child. For the first four or five weeks the infant should not be kept in beyond three or four minutes; and the duration must be gradually prolonged as the child advances in age, until it extends to a quarter of an hour—a period which may be allowed after it has attained the age of four years. If the bath is employed as *a remedial agent*, the time of immersion must be prolonged; this will be determined by the medical adviser. Speaking generally, a quarter of an hour may be said to be the shortest period, an hour the longest, and half an hour the medium.

When in the bath, care must be taken that the child's body is immersed up to the shoulders or neck, otherwise that part of the body which is out of the bath (the shoulders, arms, and chest), being exposed to the cooler temperature of the air, will be chilled. And the instant the infant or child is taken out of the bath, the general surface, especially the feet,

must be carefully rubbed dry with towels previously warmed; and when one of the objects of the bath is to excite much perspiration, the child should be immediately wrapped in flannel and put to bed. If, however, the object is not to excite perspiration, the child may be dressed in his ordinary clothing, but should not be allowed to expose himself to the open air for at least an hour.

Time of using the Bath.—When resorted to for sudden illness, the bath must of course be employed at any time needed. For any complaint of long standing, or as a general rule, it should be taken between breakfast and dinner, about two hours after the former, or an hour and a half before the latter. This implies that an infant should never be put into the bath after having been freely nourished at the breast. Neither should it ever be used when the child is in a state of free perspiration from exercise, or on awaking from sleep.

Foot Bath.—A partial warm bath, such as the foot bath, is one of the safest and most frequently employed in the nursery. It is of much service in warding off many complaints. If a child get the feet wet, plunging them into warm water will often prevent any ill consequences; and even when the first chill and slight shiverings which usher in disease have been complained of, the disorder may sometimes be cut short, by the use of a foot bath, continued till free perspiration occurs.

It is frequently ordered during teething, and in affections of the head. In these cases the intention is not merely to produce a gentle and general perspiration, but it is more particularly used to draw the blood from the head and body to the feet. The temperature of the water should be raised as high as can be borne, and

it must be kept up by the occasional addition of fresh hot water. The vessel employed should be deep enough to permit the water to reach the knees, and a blanket must be thrown round the little patient and the bath. After the child has remained in from ten minutes to a quarter of an hour, the feet and legs must be rubbed perfectly dry, woollen stockings drawn on, and the child put into a warm bed.

A mustard foot-bath is made by the addition of a table-spoonful of mustard flour to every gallon of water. In convulsions excited by difficult teething, this bath is most useful, and may always be resorted to without fear by the mother. Its good effects will be much enhanced if, at the same time, a piece of flannel wet with cold water is applied over the head and temples or cold water may be sprinkled on the face.

CHAPTER VII.

OF VACCINATION.

In the year 1876, I think it is scarcely necessary to point out the immense advantages of vaccination. One hears, it is true, every now and then of weak-minded individuals, who resist the evidence of facts and of their senses, and oppose it, but they form the exception which proves the rule. We need only refer to the Registrar-General's annual reports, if we require any further proofs of the efficacy of this measure. The deaths from small-pox now are but a tithe of what they were formerly, and if we remember that a large proportion *of those who did not actually die*, only recovered with shattered health and broken-down constitutions, and that *all* were horribly disfigured, and many of them blind, I think you will agree with me in saying that Dr. Jenner's discovery is one of the greatest advances of modern science.

There are several circumstances connected with vaccination, namely, the age and condition of the child upon whom it is to be performed—the progress and appearance of the vaccine vesicle—and the maternal management of the child during the process, with which a parent ought to be more or less acquainted.

The age and condition of the Child.—The most favourable time for vaccinating an infant is between

the age of six weeks and four months; a period that is prior to the irritation of teething and also subsequent to the extreme irritability of first infancy. Should, however, small-pox be very prevalent in the near neighbourhood, rather than expose the infant to its contagious influence it should be vaccinated *at once*. There will be but little risk in this measure, even if resorted to immediately after its birth.

The usual time *and the best time* as fixed by the Vaccination Act, is at the age of *three months*. The child should be, as far as possible, in perfect health; if, however, any disease be present, such as skin eruptions, the thrush, wasting disease, abscesses in bones or joints, then vaccination may be postponed, *provided there be no small-pox in the neighbourhood*. But if, on the contrary, there should be small-pox, have your child vaccinated immediately: the dangers of small-pox *are ten times worse* than anything vaccination can cause.

In giving you this advice, I, of course, presuppose that the vaccination will be well done; that the vaccine lymph will have been taken from a perfectly healthy child. Recently the Royal College of Physicians has required that all candidates for their diplomas shall have been thoroughly instructed in vaccination, and in all the medical schools systematic instruction is afforded; so that now-a-days there is little fear that the operation is not thoroughly and well performed. The experience, too, which has been gained during the past seventy years, has taught medical practitioners how to avoid the mistakes and fallacies into which want of experience led some of the earlier promoters of the proceeding.

It is a natural and very proper feeling which

prompts mothers to have their children vaccinated from the child of some neighbour or friend; indeed I strongly advocate this, and in order that some of the conditions most essential to successful vaccination be well known, I append in the following paragraphs what I consider to be the chief general points, leaving, of course, to the surgeon and to his discretion to decide and advise in the individual case.

The best place is on the arm, three or four inches below the tip of the shoulder, and a little to the outer side.

Have the child vaccinated on both arms; three 'places' on each arm will suffice.

The matter should be taken on the eighth day; it is then at its best, and now confers the greatest immunity from small-pox. So that if you wish to have your child vaccinated from a friend's child choose the eighth day, and arrange, if possible, to meet your medical man at the house, and have your child vaccinated '*direct*.'

When the vaccine vesicle begins to rise, you must be careful not to rub it: the child's sleeves should be loosened also, as the arm inclines to swell. Rubbing interferes with the proper development of the 'place,' and renders it unfit to vaccinate others with.

The health and constitution of the child from whom the lymph is taken, should always be carefully regarded. Not only should the child be in good health, but its parents also; it should have no cutaneous affection or vicious constitutional taint: and should be about three months of age.

The above precautions being adopted, your child may be vaccinated and you may rest perfectly assured that no harm will come of it.

The appearance and progress of a genuine vaccine vesicle.—If the vaccination has been successfully performed upon a healthy infant, the puncture on the *second* day may be felt elevated; on the *third* or *fourth* a small red pimple is to be seen, and if examined with a magnifying glass, surrounded by a slight efflorescence; on the *fifth* day a distinct vesicle becomes apparent to the eye, circular in form, having an elevated edge and depressed centre; on the *eighth* day it appears distended with a clear lymph, is either pearl-coloured or slightly yellow, and is at its greatest perfection. On the evening of this day *an inflamed ring* begins to form round the base of the vesicle, which continues to increase during the two following days; it is circular in form, and its diameter extends from one to three inches. It is at its height on the tenth day, when there is considerable hardness and swelling of the subjacent parts; on the eleventh day it begins to fade, generally from the centre to the circumference, sometimes forming two or three concentric rings of a bluish tinge. After the tenth day the vesicle itself begins to decline, the centre first turns brown, and the whole is gradually converted into a hard round scab of a dark mahogany colour. About the twenty-first day this crust falls off, leaving a permanent circular cicatrix, somewhat depressed, and marked with six or eight minute pits. Such is the course of a true vaccine vesicle; and if there be a shadow of a doubt that the vaccination is defective in any one of the above points, especially if the inflamed ring do not appear, the operation should be performed again.

Always suffer one or two of the vesicles at least to pursue their entire course untouched; if there be

more than two, then lymph may be taken from the supernumerary ones if required for vaccinating others.

Constitutional symptoms and management.—Some children pass through the disorder without the slightest indication of constitutional disturbance, which is not to be looked upon as by any means essential to the success of the vaccine process. If constitutional symptoms do manifest themselves, it will be about the seventh or eighth day; the infant will be restless and hot, and the bowels more or less disordered. It is not an uncommon circumstance to find about the tenth day an eruption showing itself on the extremities of the child, sometimes extending to the trunk of the body. It continues for three or four days; occasionally until after the vaccine scab has fallen off. This eruption is chiefly met with in children of full habit, in whom numerous vesicles have been raised, which discharge freely.

Internal treatment is rarely required during vaccination, except now and then a mild aperient, such as a tea-spoonful of castor oil; febrile symptoms, however, sometimes manifest themselves, and then something ought to be done. The chief point to be attended to, is to protect the vesicles from irritation and friction. Sometimes even without either, the arm will become very much inflamed, and it may perchance extend down as far as the hand. In such cases envelop the arm, *above* and *below* the vesicle, in a piece of soft linen well soaked in lead lotion, or cold water, and let it be kept well wetted. To the vesicles themselves you may apply a bread-and-water poultice until the scab drops off, and then cold cream until they are quite healed.

Re-vaccination.—It is now known that vaccina-

tion does not in all cases confer immunity from small-pox indefinitely, so that it becomes necessary after the lapse of a certain number of years to be re-vaccinated. Some authorities advise that a person be re-vaccinated every seven years; others every twelve years. I think, as this is such a simple matter, that it ought to be done; and *especially* so, if the vaccination marks have faded and become indistinct, or if there be any outbreak of small-pox; or if the persons be about to engage in any occupation which brings them in closer contact with any possible contagion, such as doctors, nurses, hospital servants, and the like.

A good vaccine cicatrix may be described as distinct, foveated, dotted, or indented, in some instances radiated, and having a well, or tolerably well, defined edge:

An indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and ill-defined edge.

Constitutional inaptitude.—Every effort to communicate the vaccine disease will now and then fail; the child will not take the vaccination. When a case of this kind is met with, after a fair number of trials with fresh and active virus, the little patient should be left for a few months, in the hope that some change may take place in the system, and then another trial be instituted. Experience has long proved that the predisposition to receive cow-pox is not equally great in all persons, nor at all times; and that in some individuals there exists through life an insusceptibility to the vaccine disease. The child of a weak and unhealthy constitution will not unfrequently be found indisposed to take the vaccination, but in this case the inaptitude is temporary; whilst, on the other hand,

when this indisposition is met with in a healthy and robust condition of body, it will most probably last through life. Happily, however, experience has further shown that in most of these instances the individual is equally insusceptible of the small-pox disease.

CHAPTER VIII

MANAGEMENT DURING TEETHING AND OF THE PERMANENT TEETH.

The infant at birth has no teeth visible; the mouth is toothless. It possesses, however, hidden in the jaw, the rudiments of two sets; the first of these which make their appearance are called the *temporary* or *milk-teeth*; the second, the *permanent* or *adult teeth*, and these come up as the former fall out, and so gradually replace them.

Sect. 1.—Management of the Infant during Teething.

The first set of teeth, or milk-teeth, as they are called, are twenty in number: they usually appear in pairs, and those of the lower jaw generally precede the corresponding ones of the upper. The first of the milk-teeth is generally cut about the sixth or seventh month, and the last of the set at various periods, from the twentieth to the thirtieth month. Thus the whole period occupied by the first dentition may be estimated at from a year and a half to two years. The process varies, however, in different individuals, both as to its whole duration, and as to the periods and order in which the teeth make their appearance. It may be as

well to state that, as a rule, the teeth appear in the following order :—7th month, the central incisors ; 7th to 10th month, the anterior molars ; 11th to 20th month, the canine (eye) teeth ; and last of all, the posterior molars ; the lower teeth being generally a short time in advance of the upper ones. It is unnecessary, however, to add more upon this point.

Their development is a natural process. It is too frequently, however, rendered a painful and difficult one, by errors in the management of the regimen and health of the infant, previously to the coming of the teeth, and during the process itself. Thus, chiefly in consequence of injudicious management, it is made the most critical period of childhood. Not that I believe the extent of mortality fairly traceable to it is by any means so great as has been stated ; for it is rated as high as one-sixth of all the children who undergo it. Still, no one doubts that first dentition is frequently a period of great danger to the infant. It therefore becomes very important for the mother to know how the dangers and difficulties of teething can in any degree be diminished, or, if possible, altogether prevented. I shall consider, first, the management of the infant when teething is accomplished without difficulty ; and, secondly, the management of the infant when it is attended with difficulty.

1. The management of the infant when teething is without difficulty.—In the child of a healthy constitution, which has been properly, that is, naturally, fed, upon the milk of its mother alone, the *symptoms* attending teething will be of the mildest kind, and the management of the infant most simple and easy. There will be an increased flow of saliva, with swelling and heat of the gums, and occasionally flushing of the

cheeks. The child frequently thrusts its fingers, or anything within its grasp, into its mouth. Its thirst is increased, and it takes the breast more frequently, though, from the tender state of the gums, for shorter periods than usual. It is fretful and restless; and sudden fits of crying and occasional starting from sleep, with a slight tendency to vomiting, and even looseness of the bowels, are not uncommon. Many of these symptoms often precede the appearance of the tooth by several weeks, and indicate that what is called 'breeding the teeth' is going on. In such cases the symptoms disappear in a few days, to recur again when the tooth approaches the gum.

The *treatment* of the infant in this case is very simple, and seldom calls for the interference of the medical attendant. The child ought to be much in the open air, and well exercised; the bowels should be kept freely open with castor oil; and be always gently relaxed at this time. Cold sponging should be employed daily and the surface of the body rubbed dry with as rough a flannel as the delicate skin of the child will bear, friction being very useful. The breast should be given often, but not for long at a time; the thirst will thus be allayed, the gums kept moist and relaxed, and their irritation soothed without the stomach being overloaded. The mother must also carefully attend, at this time, to *her* own health and diet, and avoid all stimulant food or drinks.

From the moment dentition begins, pressure on the gums will be found to be agreeable to the child, by numbing the sensibility and dulling the pain. For this purpose coral is usually employed, or a piece of orris-root, or scraped liquorice-root; a flat ivory ring, however, is far safer and better, for there is no danger

of its being thrust into the eyes and nose. Gentle friction of the gums, also, by the finger of the nurse, is pleasing to the infant; and, as it seems to have some effect in allaying irritation, may be frequently resorted to. In France, and in this country also, it is very much the practice to dip the liquorice-root, and other substances, into honey or powdered sugar-candy; and in Germany a small bag, containing a mixture of sugar and spices, is given to the infant to suck whenever it is fretful and uneasy during teething. The constant use, however, of sweet and stimulating ingredients must do injury to the stomach, and renders their employment very objectionable.

2. The management of the infant in difficult teething.—In the child which has been partly or altogether brought up by hand, or who is of a feeble and delicate constitution, or imbued with any hereditary taint, the process of dentition will be attended with more or less difficulty, and not unfrequently with danger.

The *symptoms* of difficult dentition are of much more aggravated description than those which attend the former case; and it is right that a mother should, to a certain extent, be acquainted with their character, that she may early request that medical aid which, if judiciously applied, will mitigate, and generally quickly remove them. There will be painful inflammation and swelling of the gum, which is hotter, of a deeper red than natural, and intolerant of the slightest pressure. There is often great determination of blood to the head, which a mother may recognise by the cheeks being red, hot, and swollen; the eyes red, irritable, and watery; and the saliva running from the mouth profusely. The fever is great, and the thirst extreme. The child is at one time restless and irritable, and at

another heavy and oppressed: the sleep will be broken, and the infant frequently awake suddenly and in alarm from its short slumbers. Such are the chief symptoms of difficult teething, and which will be present to a greater or less degree.

In reference to the *treatment*: as most of the above symptoms are induced by the painful tension of the gum, it would seem that the most rational mode of attempting their relief is by freely lancing the swollen part. Great prejudices, however, still exist in the minds of some parents against this operation. They think it gives great pain, and, if the tooth is not very near, makes its coming through the gum subsequently the more difficult. With regard to the first objection, the lancet is carried through the gum so quickly, that this is hardly possible; and the fact that the infant will often smile in your face after it is done, although previously crying from pain, is sufficient evidence that it is not a very painful operation. In reference to the second, that the scar which ensues opposes, by its hardness, the subsequent progress of the tooth, it is quite groundless; for cicatrices, like all other new formed parts, are much more easily absorbed than the original structure. Of the practical utility and perfect safety of this operation we have ample proof in its daily performance with impunity, and in the instant relief which it often affords to all the symptoms. Mere scarifying the gums is sometimes all that is required, and will afford great relief. This operation, therefore, should not be opposed by the mother. She, at the same time, should be acquainted with its precise object, lest the speedy return of the symptoms, and the non-appearance of the expected tooth, might tend to bring the operation of lancing the gums into disrepute.

The parental management of the infant, then, and by which much of the pain and difficulty of teething may be removed or alleviated, consists in attending to the following directions :—

First, to the state of the mouth.—To this it is an important part of the mother's duty to pay especial attention; and by so doing, she will save her child much suffering. The condition of the mouth should be carefully inspected from time to time; and should a swollen gum be discovered, it should immediately be attended to, not waiting till constitutional symptoms appear before she employs proper aid for her child. For this purpose the mother should make herself familiar with the appearances of the gum under distension and inflammation; a matter of no difficulty, accompanied, as this condition usually is, by a profuse secretion of saliva, heat of mouth, and at a time when the age of the child justifies the supposition that it is about to cut its first tooth, or, if it have some teeth, that others are about to appear.

Secondly, to the food.—If a child is teething with difficulty, it should always have its quantity of nourishment diminished. If it is being fed, as well as nursed at the breast at the time, the former should immediately be withheld; if it is being fed alone, the only kind of food that should be allowed is milk and water. These cases are much aggravated by the not uncommon habit of parents giving the infant food whenever it cries from the irritation attending upon the process; and thus a slightly difficult dentition is converted into serious disease.

Thirdly, to the state of the bowels.—These must be carefully watched, that they may not become confined; it being necessary that they should be gently

relaxed at this time. If a slight diarrhœa is present it must not be checked; if it pass beyond this, however, medicine must be had recourse to, and great benefit will also arise from putting the child into a warm *hip-bath*, and warmly clothing the body, but keeping the head cool.

Fourthly, to the head.—The infant's *head* should be freely sponged with cold water night and morning; this measure may be resorted to in every case without fear, and will invariably be attended with great benefit. Whether the child's *body* is to be sponged with cold or tepid water must depend upon the season of the year and constitution of the child, as well as upon other circumstances; now and then, for instance, the warm hip-bath will be ordered by the medical attendant to be employed for several consecutive days, which, by acting upon the skin, diminishes the determination of the blood to the head, and thus forms an important source of relief. No other *covering* than that which nature has provided should be put upon the head when within doors or asleep; and on no occasion should warm felt or velvet hats be worn during mild or warm weather, straw or white hats being much lighter and cooler. The child should be much in the open air.

Fifthly, of convulsions.—If they should occur, and they are not unfrequently excited by difficult teething, and then give great alarm to the parent, relief will be afforded by immersing the hips, legs, and feet of the infant in water as warm as can be borne, and at the same time applying over the head and temples a piece of flannel wet with cold water. I have also often cut the fit short by sprinkling cold water in the child's face while in the bath. The gums should always be looked to, and, if they appear swollen and painful, at once

lanced. I have known the most formidable convulsions to cease immediately after this operation. Indeed, if the mother be far away from medical aid, and convulsions are threatened, I see no reason why she should not herself at once lance the inflamed gum, but every reason why she should. Mr. Cline used to relate the case of a family in which, child after child, when they arrived at a certain age, died in convulsions from teething, until he taught the mother how to lance the gums, which she resorted to in future immediately a convulsive fit was threatened; and Cline adds, 'she never lost another, at least from this cause; for as soon as the symptoms of teething appeared, she looked for an inflamed gum, lanced it, and they ceased.' Place the fore-finger and thumb of the left hand on each side of the inflamed gum, then draw the edge of the gum lancet vertically along the top of it, making slight pressure, until the edge of the instrument is felt to grate upon the tooth—or, if this is not felt, until the upper part of the gum is freely lanced. If it be a double tooth, a crucial incision must be made, that is to say, two incisions, one to cross the other.

Sixthly, of the use of opiates.—It is the practice with some nurses to administer narcotics to quiet infants while teething. It is not only objectionable, but, from the uncertain effects of sedatives upon infants, a very dangerous practice, and they ought never to be given except at the suggestion of a medical man.[1] It is far better, if the child is restless at night, to have it frequently taken out of its cot, and carried about in an airy room; for the cool air and change of posture will do much to allay the feverishness and restlessness of the child; and if sleeplessness should still continue,

[1] See p. 141.

sponge its face and hands, and refreshing sleep will often follow.

From these few hints it must have been seen how much the sufferings from teething may be mitigated by judicious management. If the parent is able to support her infant upon the breast alone, teething will be found comparatively an easy process, and unattended with danger; the mother thus reaping a delightful reward for all the anxieties and privations which nursing necessarily involves. The child brought up partially, or entirely, by hand will nearly always pass through dentition *with more or less pain and difficulty*; but even here, if the diet has been properly regulated, much less suffering and inconvenience will arise than when less attention has been paid to it. When teething is difficult, the importance of calling in proper aid at an early period, and of fully carrying out the directions of the medical attendant, must be apparent, and no foolish prejudices must be allowed to interfere with his prescriptions and management. If I stood in need of any argument to impress upon the mind of a parent the importance of this last injunction, I would simply state that its neglect is frequently the cause of disease of the brain, terminating in death, or a state of idiocy far worse than death, of which I know more than one living instance.

It may be as well to add, that *eruptions* about the ears, head, face, and various parts of the body, very frequently appear during the process of the first teething. If they are slight they should be left alone, being rather useful than otherwise; if they are troublesome they must receive that kind of attention from the parent which will be pointed out under the Chapter on Diseases. The same remark applies to enlargement of

the glands of the neck, which frequently appears at this time, and may occur too when there is an absence of all strumous taint. It is only necessary to make one further remark, that in some infants a rash always precedes the cutting a tooth. Sometimes it appears in the form of hard elevated pimples as large as peas; in other instances in the form of red patches, of the size of a shilling, upon the arms, shoulders, and back of the neck. They are always harmless, require no particular attention, and prevent, I doubt not, more serious complaints.

Sect. 2.—Hints on the Permanent Teeth.

Parents are not sufficiently alive to the importance of attending to the condition of the mouth of their children at the period of changing the first for the second set of teeth; they do not seem to be aware how much the comfort, appearance, and future health of the child depends upon it. Nor do they subsequently impress upon the minds of their children how necessary on their part is the observance of certain rules for the preservation of the teeth, and how distressing are the effects which result from their neglect. It is proposed here to say a few words for the information and guidance of the parent upon this subject.

The manner in which they appear.—The change of the temporary for the permanent or adult teeth commences, in the majority of instances, at about seven years of age; occasionally it occurs as early as five, and as late as eight years and a half. The necessity which exists for this change, and the mode by which it is effected, are striking and beautiful; it is, however, not our object to enter fully upon its consideration here.

It has already been observed, that the infant is born with the rudiments of two sets of teeth in the

jaw, although neither make their appearance till long after birth. The time when and the manner in which the first set appears have been pointed out. Now, although these admirably answer the purpose for which they are given, up to the seventh year, after this period they fail to do so; they are not sufficiently numerous—in their structure they are not strong or durable, nor is their power of mastication sufficiently great.

They are not sufficiently large or numerous. If the mouth of a child at this age is examined, it will be seen that a considerable interval has taken place between the teeth, in consequence of the growth and expansion of the face; hence a larger set has become necessary to fill the arch. But it may be asked, do not the teeth grow with the growth of the body? and if not, why is it so? They do not, and for this reason: the important office which these organs are destined to perform requires that they should be composed of a substance too dense and of too low an organisation to allow of any subsequent growth and enlargement. Thus the size of the teeth is determined and acquired before they make their appearance through the gums. This being the case, it will be readily seen that the teeth which would be of appropriate size in the mouth of the infant, would be quite inadequate to the enlarged dimensions of the adult; hence the necessity of a second set, exceeding in number and size the teeth of the first. That a necessity also exists at this age, that the weak and delicate teeth of childhood should be exchanged for a set stronger and more durable in their structure, more robust and more powerful, will be sufficiently apparent, if we only recollect the great change which has gradually been taking place in the nature of the food of the two epochs of childhood and adult age.

The second set, or permanent teeth, then lying under the milk-teeth and hidden in the jaw, undergo in this situation their full development, before they appear above the gum. This occurrence commences about soven years of age, at which period the first set begin to fall out from their roots becoming absorbed, and no longer retaining their hold of the jaw; to be entirely replaced in the course of a few years by the permanent set, which thus sueceeds them. The first teeth of this set which make their appearance are the large double teeth, which emerge from the gum immediately behind the last of the temporary set. Next the two front teeth of the lower jaw fall out, and are succeeded by two others of similar character and form, but of larger size; then the two corresponding teeth of the upper row are cast off, and their places supplied; shortly after the teeth immediately adjoining these; then the double teeth of the first set are exchanged for their smaller successors of the second. The eye-teeth after a time begin to make their appearance; and then more double teeth; making in all twenty-eight teeth, and occupying in their development from the seventh to the fourteenth year of age. They are not, however, yet complete; for between the latter date and the twenty-first year four more teeth appear, called the wisdom teeth, making the adult set or permanent teeth to amount in all to thirty-two teeth. It should be observed, that whilst this is the most usual course in which this set appears, the line of succession is sometimes different.

Their value and importance.—It would seem almost unnecessary to say a word upon so self-evident a truth, and yet perhaps the full extent of this statement is not generally appreciated. It has not, perhaps,

occurred to the minds of all, that upon the right position and arrangement of the teeth *the beauty* and *expression of the countenance* much depends. But so it is; for however regular and perfect the general features, if the teeth are irregular or deficient, an unpleasing expression, proportionate to the extent of the displacement, is inevitably produced. Now every mother should be alive to this fact, that she may early apply to the dentists to have any error of the above nature rectified, before it is too late.

On their complete and entire state also depends *the perfection of utterance and articulation.* The child, for instance, makes no attempt at articulation until it has acquired several teeth; this faculty becomes also exceedingly imperfect during the process of changing them; from this time it continues to improve until again it is permanently impaired in old age, when they are finally lost. And so again, if a child lose merely a single tooth from the front of its mouth, lisping will result; or if a supernumerary or irregular tooth be present, the articulation will be abrupt and imperfect:—the former plainly showing the importance of the entireness of the series, and the latter the necessity of regularity in their arrangement and position.

The teeth, however, are chiefly important in relation to the part they sustain in connection with digestion, viz., the mastication of the food. By this act the food, after being received into the mouth, is mixed with the saliva, and broken down, till it becomes of an uniform pulpy consistence, fit for being easily swallowed, and acted upon by the gastric juice on its arrival in the stomach. That due mastication of the food is essential to healthy digestion, which will be promoted or retarded in exact proportion as it approaches or falls short of

this point, is a fact so generally known as scarcely to need comment. Suffice it to add, that if food be introduced into the stomach unmasticated, the gastric juice will only act upon its surface; and after a number of hours it will either be rejected by vomiting, or pass on into the intestine, to give rise to colic, bowel complaints, or flatulence, and very frequently in children to a serious attack of convulsions.

Their management whilst coming.—During the advance of the permanent teeth, every parent ought to have the mouth of her child inspected occasionally, that any irregularity in their position or arrangement may be prevented. And it is equally her duty to see to it, that she choose a competent person to do this, since great mistakes are not unfrequently made in this matter, and which themselves become the source of evils far more serious than those they are intended to obviate. 'I have known,' says Mr. Bell, 'no less than eight or even ten firm teeth forcibly removed from the jaws of a child at once, when there was not the slightest reason to apprehend any evil result from their being left alone.' Here there was a most cruel, because unnecessary, infliction of pain, as well as great hazard incurred of seriously injuring the permanent teeth by interfering with the secretion of their enamel. And besides all this there is another and yet greater evil; for, if the temporary teeth be removed before the permanent ones are so advanced as to be ready to occupy their situation, the arch of the jaw will assuredly contract, and when, subsequently, the permanent teeth are fully formed, there will not be room enough for them to range in their proper situation. Thus the operation which was intended to prevent irregularity, becomes the cause of its occurrence, and that in its

very worst form, producing a want of accordance between the size of the teeth and that of the jaw.

The eye-teeth generally occasion most anxiety to a parent, from the prominent position in which they present themselves; but in the majority of cases nothing but time is required to reduce them to their proper station. But, whatever may be the peculiarities of each individual case, the dentist will decide what may be required; only, I would again repeat, do not neglect the occasional inspection of the mouth at this age, if you regard the future comfort and appearance of your child.

Means to be used for their preservation.—The preservation of the teeth requires attention to several points; the first and principal of which is, to enforce the habit in the child of thoroughly cleaning the teeth by means of water and a brush night and morning, and rinsing out the mouth after his dinner meal. The brush should not be very hard, as it will not only be more difficult to clean the interstices between the teeth, the part in which the tartar is most likely to be deposited, but by its friction will occasion the gradual absorption of the gum and the exposure of the neck of the teeth. The hair of the brush should be firm and elastic, and not too closely set. If there is a tendency to the formation of *tartar*, then it will be necessary to have recourse to some tooth-powder. Tooth-powders, however, must be chosen with care, as many of them are composed of substances highly injurious to the teeth. Mr. Bell says, 'Many of the tooth-powders which are offered for sale, with the promise of rendering the teeth beautifully white, perform for a time all that is promised, at the expense of permanent and irremediable injury to the teeth; for they often contain a

quantity of tartaric or other acid, which effects a gradual decomposition of the enamel.' One of the commonest tooth-powders of the present day, and which is a very good form, is the following:—Prepared chalk, three ounces; orris-root, powdered, half an ounce; cuttlefish, powdered, one ounce; essential oil of cinnamon, four drops. But the best of all dentifrices is the plain camphorated tooth-powder; for while the camphor does no injury to the teeth, it instantly destroys those minute creatures which produce the tartar and green incrustation on the enamel. 'To promote a general cleanliness of the teeth, the fact cannot be too often repeated, that a microscopic observer, M. Mandl, has discovered that, not only the foul mucous covering of the tongue, but the tartar of the teeth, consist of the dead remains of millions of infusorial animalculæ. Leuwenhöek discovered, long ago, that the mucous secretion of the human mouth abounded in living specimens of these minute beings; but it remained for M. Mandl to make known that the tartar of the teeth consists of their dead bodies compactly united together in one mass, by chemical decomposition. When a portion of this tartar of the teeth is softened in clear water, and placed under a powerful microscope, it is found to consist of their delicate skeletons.'

The best preservative, then, against the formation of tartar, is to see that the child cleans his teeth thoroughly night and morning with a brush and water, and also that he rinses out his mouth after the dinner meal. And if the tartar should be disposed to form, then he must in addition use tooth-powder.

If *the gums* should be *tender, irritable, and bleed* (as is frequently the case when an individual gets out of health, or the tartar accumulates) the mouth may

be washed night and morning with a tumbler of tepid water, containing from ten to twenty drops of the tincture of myrrh, and the same quantity of spirits of camphor; or the following form may be used:—Borax, two drachms; tincture of myrrh, four drachms; and distilled water, eleven ounces.

The use of *acids* to the teeth cannot be too strongly deprecated; they decompose their substance and lead to their rapid decay. Hence the whiteness produced by acid tooth-powders and washes is not less deceitful than ruinous in its consequences. As has just been observed, they perform all that their vendors promise, causing the teeth, for a little while, to become very white and beautiful in their appearance, but at the same time injuring them irremediably; the enamel becomes gradually decomposed, the bone of the tooth exposed, and its death is the inevitable consequence. It is therefore of great importance when *acid medicines* are ordered for children that they should be taken through a glass tube to prevent their coming in contact with the teeth. From a want of this precaution I know a young lady (and there are many such instances) who once had a sound and fine set of teeth, but from this cause has had nearly the whole of the upper row destroyed. She was in delicate health; it was judged requisite that she should take for a considerable time (with other medicines) sulphuric acid; but the glass tube was not thought of, and the consequences followed which have been described.

Calomel, as it is frequently given alone, or in the little white powders, in infancy and childhood, by mothers and nurses, is productive of serious and indeed irremediable injury to the teeth. Mr. Bell says, 'The immoderate use of mercury in early infancy produces,

more perhaps than any other similar cause, that universal tendency to decay, which, in many instances, destroys almost every tooth at an early age. It is certainly not unimportant to bear this fact in mind, in the administration of this *sovereign remedy*, this panacea, as many appear to consider it, in infantile diseases.'

The teeth are exceedingly apt to suffer from sudden variations of temperature. Fluids, therefore, should never be taken into the mouth so hot or so cold as to produce the slightest pain; and for the same reason, the water with which the mouth is cleansed should in winter be always warm or tepid. There are many other causes which might be mentioned as tending to induce decay of the teeth, but their consideration here is purposely avoided. It is hoped enough has been said to draw the parent's attention to the subject of the teeth, to prevent their neglect, and yet at the same time to induce a cautious management.

PART II.

MANAGEMENT OF CHILDREN IN DISEASE.

CHAPTER IX.

GENERAL REMARKS ON ILLNESS.

In the previous part of this work, devoted to the general management of the child in health, I have endeavoured to teach the mother that her especial province is the prevention of disease, not its cure. To establish and carry out this principle, every word contained in the preceding pages has directly or indirectly tended. It must be remembered, however, that this is not all. The mother has a most important part to perform in the diseases of infancy and early childhood. I refer to those duties which constitute the domestic management of illness, and which embrace the period from the first moment of indisposition to its close. In the different chapters which follow I have pointed out in what these duties consist; it will be well, however, to give some hints on illness in general, which, it is believed, if acted upon, will tend to abridge the duration and abate the violence of disease when present, and consequently the danger and sufferings of the child.

Many mothers are *continually giving medicine* to their children. Some trivial derangement is supposed to exist; but whatever may be the matter, physic is the sovereign and only remedy, and dose follows dose until illness is really produced, and the medical man summoned to treat a disorder occasioned entirely by the love of drug-giving. Medicine thus unadvisedly exhibited, is a fruitful source of mischief and suffering, and the children of such mothers stand a very poor chance of struggling through childhood, and certainly are very unlikely to see a healthy and vigorous maturity.

Temporary indisposition from disorder of any of the natural functions is generally to be put to rights by domestic remedies and a spare diet for four-and-twenty hours; but, if these measures should not succeed, and the symptoms of disorder increase rather than diminish, it is as much the wisdom as the duty of the mother to send for medical aid at once, before the health is permitted to suffer, and disease of a serious nature established.

Whenever a child becomes *suddenly indisposed*, with or without any apparent cause, there ought to be no temporising with symptoms in the hope that nursery medicines will give relief, and that before evening or in the morning the invalid will be better; much valuable time is thus frequently lost, and the delay in sending for the medical attendant is occasionally fatal to the child.

The medical man being in attendance, his advice ought to be strictly and conscientiously followed out. His right to entire confidence and implicit obedience is implied in calling him in at all. Entering the sick chamber upon these terms, and taking upon himself,

as he does from the moment he prescribes for his patient, the responsibility of the case, the measures he directs ought, in common fairness, to be faithfully acted on. This, however, is not always done. Now and then, in an unguarded moment, a parent allows herself to be persuaded by some friend who may call, to adopt a remedy which has been so successful 'in just such a case as this,' and the medical man's prescription gives place. There can be no harm in her submitting it to his judgment, but much harm may be done by her not doing so. And in cases of severe illness it too frequently happens that well-meaning friends, without intending it, perhaps, shake the confidence of parents in their professional adviser, in whom before they had, and most deservedly, implicit faith; cruelly harassing the parents' feelings, and acting thoughtlessly and unjustifiably towards the medical man.

Serious disease sometimes advances, simply because the measures prescribed are not followed out.—The medicine perhaps is not given, from the carelessness of the nurse, or it may be from the difficulty of getting the child to take it. There cannot be a more unjustifiable and unwise way of overcoming the last, than to threaten the child with 'what the doctor will do' if he does not comply; thus making the doctor a bugbear instead of a friend.

Deceit is not the way to bring the child to submission surely, and here it does direct and manifest injury, for it not only makes the child look upon the medical man as an object of dread, but also necessarily so excites him in his presence, as to disguise or even aggravate the symptoms of the disease, and thus may make a wrong impression on his mind, and deceive his

judgment. The mischief, however, does not stop here, for ill health or temporary sickness thus proves a source of moral evil to the child. 'A sick child is but too often persuaded or deceived into taking medicine, when he should be directed by the calm, honest, steadfastness of a parent's authority. If he once obtains the victory, or has reason to think himself imposed upon, he will become unmanageable, or meet deceit with deceit. The observance of the duties of obedience during illness is no source of pain, but produces that calm reliance upon the sense, affection, and power of the parent, most favourable to recovery.'

But to return to our point. In serious and active disease the efficacy of medicine often depends on keeping the system under its influence. If this is suspended for a time, the disorder may be making destructive progress. Medical treatment, to be successful, must be seconded by a careful, painstaking, and judicious maternal superintendence. No medical treatment can avail at any time if directions be only partially carried out, or be negligently attended to, and must assuredly fail altogether, if counteracted by the erroneous prejudices of ignorant attendants. To the affections of infancy and childhood, this remark applies with great force, since, at this period, disease (if it be at all serious) is generally so sudden in its assaults, and rapid in its progress, that unless the measures prescribed are promptly and rigidly administered, their exhibition is soon rendered altogether fruitless. The amount of suffering, too, may be greatly lessened by the thoughtful and discerning attentions of the mother. The wants and necessities of the young child must be anticipated; the fretfulness produced by disease, soothed by kind and affectionate attentions; and the possibility

of the sick and sensitive child being exposed to harsh and ungentle conduct, carefully provided against.

And not only is a firm and strict compliance with medical directions necessary, but it is of the utmost importance that, whenever the physician visits his patient, *the report of the symptoms and progress* of the case should be unbiassed, faithful, and full. An ignorant servant or nurse, unless great caution be exercised by the medical attendant, may, by an unintentional, but erroneous report of symptoms, produce a very wrong impression upon his mind as to the actual state of the disease. *He* cannot sit hour after hour watching symptoms; hence the great importance of their being faithfully reported. Now if this cannot be done by the mother, it must be by some person equally competent. Hence the necessity, more especially evident in sickness, of having attendants about your children upon whose judgment as well as kindness and affection you can most fully rely. I know there is great difficulty in meeting with suitable persons for this office, but I think British mothers seek them in the wrong class of society. If they would only go a step higher, to that class who spend their days and almost nights in plying the needle, exhausting their strength and ruining their health, they would be much more successful in meeting with what they want. For my own part, I think great good would result from the establishment of an institution for the instruction of such young women in the offices and duties of the nursery, and, from my own observation, I have no doubt it would meet with ample success.[1]

[1] This was written some years ago and before the many Children's Hospitals, which now exist all over the country, were built. The Editor has thought it better to let the remark stand

Serious mischief now and then ensues during an illness from the mismanagement of *the diet*. Its regulation is important, not only in the removal of disease, but in the progress of recovery. A child, for instance, shall be convalescent, and from some indiscretion in this particular, the most serious relapse shall be induced. There is no greater obstacle to recovery than dietetic negligence. Strict directions upon this particular should ever be rigidly acted up to. It is a great mistake to suppose that medicine is to do everything. When active disease is present (as has just been pointed out) it may be the child's salvation; but nine-tenths of the disorders of children are to be removed by general measures aiding the restorative efforts of nature. Do not, however, make a great mistake here, and suppose you can dispense with medical aid. The judgment and counsel of the physician is as necessary in the one case as the other, to point out and watch over the course to be pursued to restore health.

The sick-room, &c.—Whenever illness threatens, it is always well to remove the patient to a separate room, and nothing is more important than a well-arranged room; well-arranged as regards its position and as regards its furniture. It should be so chosen that the comfort of the rest of the family, and the daily occupations, be as little interfered with as possible on the one hand, and yet so that the invalid be not annoyed by the merriment and life which are inseparable from robust health. The temperature of the room should

as it is, although it no longer applies. Young women can now be trained in the Children's Hospital, Great Ormond Street; 'no other charge is made than suffices to defray the bare cost of their board.' In fact, it was one of the objects which Dr. West had in view when he founded the hospital.

be regulated by a thermometer, which ought to stand uniformly at about 62° Fah. The patient must be protected from direct draughts while the windows are opened for the admission of fresh air, and at such times the fire may be brightened up in order to warm the incoming air. The greatest cleanliness must be observed: and it is always best to take up the carpet; the floor may be irrigated with a little disinfectant water night and morning. All the excreta must be put aside in covered vessels for the inspection of the medical man; they should be kept, if possible, in an adjoining room, *and not in the sick chamber*. As regards the furniture, little need be said; remove all that can be conveniently moved, and so give the patient the benefit of all the space—this is even more necessary in chronic than in acute cases. Strong light must be excluded in acute cases, and during convalescence the feelings of the little patient may be consulted. Freedom from all excitement and irritation is of the greatest importance; especially, do not show all your friends and callers upstairs; not only do such visits excite the child, but they also vitiate the atmosphere and so materially retard the progress towards recovery.

CHAPTER X.

HINTS FOR THE MOTHER'S EARLY DETECTION OF DISEASE IN THE CHILD.

Life is soon extinguished in infancy. At this epoch any disease is formidable, and must be met most promptly. It is either sudden and active in its assaults, or comes with slow and insidious approach. Its first signs are not always visible to an unpractised eye; it may have made dangerous advances before the mother's mind is awakened to its presence; and medical aid may be solicited when remedies and advice are no longer of any avail. It is, therefore, highly important that a mother should possess such information as would enable her to detect disease at its first appearance, and thus insure for her child timely medical assistance, and spare herself those painful but unavailing regrets which a suspicion of neglect would infallibly awaken. This knowledge it will not be difficult for her to obtain. She has only to become familiar with those indications which constitute health, and she will for the most part be able to detect the first appearances of disease.

The condition of the sick child sometimes becomes *suddenly worse*—for example, when the lungs are the seat of disease—so that in a case in which in the morning perhaps there was no ground for anxiety, by mid-day it becomes one of peril—the child

gasping for breath. Let not the parent draw an unjust inference here, and fancy that the medical attendant has overlooked the approaching danger. He saw the little patient in the morning, and pronounced the case to be doing well, and five hours have only passed and the child appears dying. Yes, this may happen, and yet the opinion given may have been perfectly correct. It would be difficult to explain to an unprofessional person how this may occur—she must be satisfied to know that such sudden and rapid alarming changes may arise, and that even under the most experienced professional treatment. Why do I write this? Because, only yesterday, I was called in great haste to the case of a young child under the charge of a medical brother, who was suffering from hooping-cough combined with inflammation of the lungs, in which what I have described took place; and it was as much as I could do to convince the parents that the previous treatment had been such: they could not understand how the child should be doing so well but a few hours before, and then, in so short a time, have seemed next death; the inference of wrong treatment here, however, would have been as unjust as ungenerous.

Sect. 1.—Signs of Health.

The signs of health are to be found, first, in the healthy performance of the various functions of the body; the regular demands made for its supply neither in excess nor deficiency; and a similar regularity in its excretions both in quantity and appearance.

If the figure of the healthy infant is observed, something may be learnt from this. There will be perceived such an universal roundness in all parts of

the child's body, that there is no such thing as an angle to be found in the whole figure; whether the limbs are bent or straight, every line forms a portion of a circle. The limbs will feel firm and solid, and unless they are bent the joints cannot be discovered.

The tongue, even in health, is always white, but it will be free from sores—the skin cool—the eye bright—the complexion clear—the head cool—and the abdomen not projecting too far—the breathing regular and without effort. When awake, the infant will be cheerful and sprightly, ready to laugh, and loving to be played with. When asleep, it will appear calm, every feature composed, its countenance displaying an expression the reverse of unhappiness.

Sect. 2.—Signs of Disease.

Just in proportion as the above appearances are present and entire, health may be said to exist; and just in proportion to their partial or total absence disease will have usurped its place. We will, however, for the sake of clearness, examine the signs of disease as they are manifested separately in the countenance—the gestures—in sleep—in the stools—in the cry—and in the breathing and cough.

The Countenance.—In health the countenance of a child is expressive of serenity in mind and body; but if the child be unwell, this expression will be changed, and in a manner which, to a certain extent, will indicate what part of the system is at fault.

The brows will be contracted if there is pain, and its seat is in the *head*. This is frequently the very first outward sign of anything being wrong, and will occur at the very onset of disease; if, therefore, remarked at

an early period, and proper remedies used, its notice may possibly prevent one of the most fearful of infantile complaints—'Water in the Head.' But if this sign be passed by unheeded, and the above disease be threatened, soon the eyes will become fixed and staring—the head hot, and moved uneasily from side to side upon the pillow, or lie heavily upon the nurse's arm—the child will start in its sleep, grinding its teeth, and awake alarmed and screaming—its face will be flushed, particularly the cheeks (as if rouged)—its hands hot, but feet cold—its bowels obstinately costive, or its motions scanty, dark-coloured, and foul.

If the lips are drawn apart, so as to show the teeth or gums, the seat of the pain is in the *belly*. This sign, however, will only be present during the actual existence of suffering; if, therefore, there be any doubt whether it exists, press upon the stomach, and watch the effect on the expression of the countenance. If the pain arise simply from irritation of the bowels excited by undigested matter, it will be temporary, and the sign will go and come just as the spasm may occur, and slight remedial measures will give relief. If, however, the disease be more serious, and inflammation ensue, this sign will be more constantly present, and soon the countenance will become pale, or sallow and sunken—the child will dread motion, and lie upon its back with the knees bent up to the belly—the tongue will be loaded—and in breathing, while the chest will be seen to heave with more than usual effort, the muscles of the belly will remain perfectly quiescent.

If the nostrils are drawn upwards and in quick motion, pain exists in the *chest*. This sign, however, will generally be the accompaniment of inflammation of the chest, in which case the countenance will be dis-

coloured—the eyes more or less staring, and the breathing will be difficult and hurried; and if the child's mode of respiration be watched, the chest will be observed to be unmoved, while the belly quickly heaves with every inspiration.

Convulsions are generally preceded by some changes in the countenance. The upper lip will be drawn up, and is occasionally bluish or livid. Then there may be slight squinting, or a singular rotation of the eye upon its own axis; alternate flushing or paleness of the face; and sudden animation followed by languor. These premonitory signs will sometimes manifest themselves many hours, nay days, before the attack occurs; and if noticed in time, and suitable medical aid resorted to, the occurrence of a fit may be altogether prevented.

The state of the eyes should always be attended to. In health they are clear and bright, but in disease they become dull and give a heavy appearance to the countenance; though after long-continued irritation they will assume a degree of quickness which is very remarkable, and a sort of pearly brightness which is better known from observation than it can be from description. *The direction* of the eyes, too, should be regarded, for from this we may learn something. When the infant is first brought to the light, both eyes are scarcely ever directed to the same object; this occurs without any tendency to disease, and merely proves that regarding one object with both eyes is only an acquired habit. But when the child has come to that age when the eyes are by habit directed to the same object, and afterwards it *loses* that power, this circumstance alone may be looked upon as a frequent prelude to disease affecting the head.

The Gestures.—The gestures of a healthy child are

all easy and natural; but in sickness those deviations occur which alone will often denote the nature of the disease.

Suppose an infant to have acquired the power to support itself, to hold its head erect; let sickness come, its head will droop immediately, and this power will be lost, only to be regained with the return of health; and during the interval every posture and movement will be that of languor.

The child that has just taught itself to run alone from chair to chair, having two or three teeth pressing upon and irritating the gums, will for a time be completely taken off its feet, and perhaps lie languidly in its cot, or on its nurse's arm. The legs being drawn up to the belly, and accompanied by crying, are proofs of disorder and pain in the bowels. Press upon this part, and your pressure will increase the pain. Look to the secretions from the bowels themselves, and by their unhealthy character your suspicions, in reference to the seat of the disorder, are at once confirmed.

The hands of a child in health are rarely carried above its mouth; but let there be anything wrong about the head, and pain present, and the little one's hands will be constantly raised to the head and face. Sudden starting when awake, as also during sleep, though it occur from trifling causes, should never be disregarded. It is frequently connected with approaching disorder of the brain. It may forbode a convulsive fit, and such suspicion is confirmed, if you find the thumb of the child drawn in and firmly pressed upon the palm, with the fingers so compressed upon it that the hand cannot be forced open without difficulty. The same condition will exist in the toes, but not to so great a degree; there may also be a puffy state of the

back of the hands and feet, and both foot and wrist bent downwards.

There are other and milder signs threatening convulsions and connected with gesture, which should be regarded:—the head drawn rigidly backwards—an arm fixed firmly to the side, or near to it—as also one of the legs drawn stiffly upwards. If in addition there are certain alterations in the usual habits of the child:—the sleep disturbed—frequent fits of crying—great peevishness of temper—the countenance alternately flushed and pale—sudden animation followed by as sudden a fit of languor—catchings of the breath followed by a long and deep inspiration,—the expectation of an attack of convulsions is confirmed beyond doubt.

The Sleep.—The sleep of the infant in health is quiet, composed, and refreshing. In very early infancy, when not at the breast, it is for the most part asleep in its cot; and although as the months advance it sleeps less, yet when the hour for repose arrives, the child is no sooner laid down to rest, than it drops off into a quiet, peaceful slumber. Not so, if ill. Frequently it will be unwilling to be put into its cot at all, and the nurse will be obliged to take the infant in her arms; it will then sleep but for a short time, and in a restless and disturbed manner. If it suffer pain, however slight, the countenance will indicate it; and, as when awake, so now, if there is anything wrong about the head, the contraction of the eyebrow and grinding of the teeth will appear; if anything wrong about the belly, the lips will be drawn apart, showing the teeth or gum—and in both instances there will be great restlessness and frequent startings.

The Stools.—In the new-born infant the motions

are dark-coloured, very much like pitch both in consistence and appearance. The first milk, however, secreted in the mother's breast, acts as an aperient upon the infant's bowels, and thus, in about four-and-twenty hours, it is cleansed away; or if not, a teaspoonful of castor oil accomplishes this purpose. From this time, and through the whole infancy, the stools will be of a lightish yellow colour, the consistence of thin mustard, having little smell, smooth in appearance, and therefore free from lumps or white curded matter, and passed without pain or any considerable quantity of wind. And as long as the child is in health, it will have daily two or three, or even four of these evacuations. But as it grows older, they will not be quite so frequent; they will become darker in colour, and more solid, though not so much so as in the adult.

Any deviation, then, from the above characters, is of course a sign of something wrong; and as a deranged condition of the bowels is frequently the first indication we have of coming disease, the nurse should daily be directed to watch the evacuations. Their appearance, colour, and the manner in which they are discharged, are the points principally to be looked to. If the stools have a very curdy appearance, or are too liquid, or green, or dark-coloured, or smell badly, they are unnatural. And it should be borne in mind, that, in a healthy child, the motion is passed with but little wind, and as if *squeezed* out, but in disease it will be thrown out with considerable force, which is a sign of great irritation. The number of stools passed within the four-and-twenty hours it is important to note, so that if the child does not have its accustomed relief (and it must not be forgotten that children, although in perfect health differ as to the precise number), a

little eastor oil may be at onee exhibited, and thus misehief be prevented. This, however, is not the plaee to discuss the question of disordered bowels, but simply to point out how this eireumstance may be known.[1]

The Cry.—By erying, the infant, for the most part, manifests its sensations and wants. A parent, therefore, should learn to distinguish with aeeuracy *that* cry whieh denotes hunger, and *that* which proceeds from pain and other eauses. It is important a young mother's attention should be directed to this subjeet, if it were only to guard her from falling into the eommon and most injudicious error of looking upon every ery of her offspring as an indication of hunger—a mistake often fraught with fatal results.

The cry of hunger may be easily recognised by a little observation. An infant awakening, and needing the breast, will generally show certain signs of hunger before it cries for food. It will put out its tongue, move its head about as if in seareh of the breast, and if at this moment the mother eomes in sight, thoroughly arousing himself, he will manifest his joy at seeing her, and eagerly take his meal; but if, on the other hand, she is not present, and these signs are not heeded, the cry will begin, and continue, much in the same tone, until the supply is obtained. Now these signs are not present when the cry is occasioned by some other cause. The child, it is true, will take the breast when offered, *but it does not ask for it*; and it will become quiet as soon as put there; but this composure will be of short duration, for as soon as taken from it, its lamentations will be resumed with redoubled violence.

The cry of discomfort will with some children be

[1] See the chapter on Disorders of the Stomach and Bowels.

frequent enough, the most trifling cause producing it. Thus, some temporary inconvenience from posture :— the child has been lying long in one position, and has grown tired of it; some slight pain or uneasiness caused by a rucking or pressure in some portion of its dress; or perhaps positive pain, though slight enough, from the pricking of a pin :—these and many other causes of a slight and passing kind will be continually occurring, and no mother will have difficulty in detecting, and at once removing them.

The cry of pain and suffering is variously expressed. If a child, usually placid and cheerful, gets fretful, fractious, and crying, with its fingers continually going to its mouth, this denotes pain caused by a coming tooth pressing against a tender and inflamed gum. If a child, not accustomed to cry much, on some occasion is perpetually crying, this denotes some continued recurring painful sensation somewhere, and demands medical attention to detect and remove the cause. If a child cry violently, this denotes the presence of severe pain, unless it be the effect of passion. If it be from pain, and you find at the same time the child incessantly drawing up its legs towards its body, it is a sign that it is suffering from disorder and pain in its bowels. This may either be trifling in degree, caused by spasm, the result of slight irritation, possibly the effect of over-feeding (the most frequent cry of infancy), to be relieved perhaps by the gentle friction of a warm hand before the fire (and not by putting to the breast), or, it may have a much more serious origin, and is not thus to be removed, pointing out the necessity for prompt professional attention. If the violent fit of crying be simply the effect of temper (and a discerning mother will readily perceive the difference), the child will sometimes hold its breath, until

the recovery of it seems doubtful, and it will get black in the face. To remedy this, plunge the hand or both into cold water; this will induce gasping or sighing, and so the breath is again fully drawn.

The flow of tears seems only to attend the mental feelings, or emotions, as they are called, and to be one of the chief signs of their activity. It therefore becomes possible to distinguish the cry of temper and self-will from that of simple bodily suffering, which has no tears. *This* must be inquired into; *the other* ought to be neglected. Even young children are gratified by the attention paid to their fits of naughtiness, and are less likely to repeat them if experience teaches them that they are not attended to.

Moaning, or the plaintive cry which characterises some diseases, needs no description: it will not escape the observation of a kind mother.

These varieties then of an infantile cry are all more or less important, and are easily detected. The breast must be given only when it is the result of hunger; if excited by some temporary inconvenience, the cause of it should be sought for and be removed; if caused by pain excited by disease, the mother on detecting it will directly seek medical aid, and will thus very frequently prevent serious indisposition to her child, greatly abridge the duration and violence of the attack if it take place, or if she have to endure the grief of a bereavement, will at least be spared the pain of self-reproach.

The Breathing.—The breathing of a child in health is formed of equal inspirations and expirations, and it breathes quietly, regularly, inaudibly, and without effort. But let inflammation of the air-tubes or lungs take place, and the respiration will become in a few

hours so quickened and hurried, and perhaps audible, that the attention has only to be directed to the circumstance to be at once perceived.

Now all changes which occur in the breathing from its healthy standard, however slight the shades of difference may be, it is most important should be noticed early. For many of the complaints of the chest, although very formidable in their character, if only seen early by the medical man, may be arrested in their progress; but otherwise they may get beyond the control of art. A parent, therefore, should make herself familiar with the breathing of her child in health, and she will readily mark any change which may arise.

Of Cough.—Of this symptom I should not have said anything in this chapter, as it can never fail to be noticed, except that it is highly necessary to throw out one caution. Whenever a child has the symptoms of a common cold, attended by *hoarseness* and *a rough cough*, always look upon it with suspicion, narrowly watch the child, and never neglect seeking a medical opinion. Hoarseness does not usually attend a common cold in a very young child, and these symptoms may be premonitory of an attack of 'croup;' a disease excessively rapid in its progress, and which, from the importance of the parts affected, carrying on, as they do, a function indispensably necessary to life, requires the most prompt and decided treatment.

The following observations of Dr. Cheyne are so strikingly illustrative, and so pertinent to my present purpose, that, although they will be again referred to, I cannot refrain from inserting them here: 'In the aproach of an attack of croup, which almost always takes place in the evening, probably of a day during which the child has been exposed to the weather, and often after

catarrhal symptoms have existed for several days, he may be observed to be excited, in variable spirits, more ready than usual to laugh than to cry, a little flushed, occasionally coughing, the sound of the cough being rough, like that which attends the catarrhal stage of the measles. More generally, however, the patient has been for some time in bed and asleep, before the nature of the disease with which he is threatened is apparent; then, perhaps, without waking, he gives a very unusual cough, well known to anyone who has witnessed an attack of the croup; it rings as if the child had coughed through a brazen trumpet; it is truly a *tussis clangosa*; it penetrates the walls and floors of the apartment, and startles the experienced mother—"Oh! I am afraid our child is taking the croup." She runs to the nursery, finds her child sleeping softly, and hopes she may be mistaken. But remaining to tend him, before long the ringing cough, a single cough, is repeated again and again; the patient is roused, and then a new symptom is remarked; the sound of his voice is changed; puling, and as if the throat were swelled, it corresponds with the cough,' &c.

How important that a mother should be acquainted with the above signs of one of the most terrific complaints to which childhood is subject; for, if she only send for medical assistance during its first stage, the treatment, if vigorous and judicious, will be almost invariably successful; whereas if this 'golden opportunity' is lost, this disease will seldom yield to the influence of measures, however wisely chosen or perseveringly employed.

Sect. 3.—Other Circumstances which Assist in the Early Detection of Disease.

1. The influence of the seasons in producing particular forms of disorder.—The recollection of the fact, that at the different seasons of the year some diseases are more prevalent than at other periods, will greatly aid a judicious parent in the early detection of the presence of disorder, and its kind, in her child.

Thus, in *the early part of the winter*, what is called catarrh, viz., an increased secretion of mucus from the membranes of the nose, fauces, and air-tubes, with fever, and attended with sneezing and cough, thirst, lassitude, and want of appetite, is generally prevalent. *As the winter advances*, the air-tubes of the lungs, and the lungs themselves, are liable to become the seat of disorder; and those signs will present themselves which have been pointed out in the previous section as characteristic of such attacks.

In the spring, we have still the same diseases prevalent, and in addition, measles, scarlet fever, small-pox, and chicken-pox, which increase in liability towards the close of the season, and with the first weeks of summer.

In the summer, disease is less prevalent than at any other period of the year; but towards its middle and close, and through the whole of the autumnal months, bowel complaints may be expected in the forms of diarrhœa, cholera, and dysentery.

2. The influence of an hereditary predisposition to certain diseases.—Without entering into this subject at large, still it may be useful to remark, that in some families there is a predisposition to some diseases,

which, occurring in the first child, will, as each succeeding child is born, attack at the same age. Amongst other diseases of this class are croup, hooping-cough, and water in the head. This observation should not only lead a mother to be alive to the possibility of the successional occurrence of these diseases in her family, so as to recognise them promptly, and lose no time in seeking advice, but should at the same time make her most anxious to shield her child from all their exciting causes, and to adopt those measures which may contribute indirectly to overcome the constitutional predisposition.

Of the *scrofulous constitution*, I will merely mention here, that it is of the greatest importance where a predisposition to this disease exists in a family, that a mother should immediately attend to any alteration in the gait or contour of her child, and give prompt attention also to any complaint made of swelling about a joint, although it may be unattended with pain. The importance of this remark will be seen by contrasting the result of the following cases which occurred in children of the same family.

A. B., a female child, having blue eyes, light hair, and a fair complexion, when two years of age, had an enlargement of the left knee-joint. *For some weeks previous to this time there had been a degree of heat about the part; but as no pain apparently existed, it was not regarded as of any consequence, and nothing was done.* The child was afterwards placed under medical treatment. Two or three months having elapsed, it was shown to me, in consequence of a slight tumefaction over the lower part of the spine. This soon disappeared under the measures employed, and eventually the disease of the knee, which was scrofu-

lous, was arrested, so that now the case promises to be cured; but the joint will for ever be stiff, and the limb shorter than the other.

G. B., the brother of the above, a handsome boy, with light hair, fine blue eyes, when six years old, had enlargements of the glands in his neck, which were relieved by the treatment resorted to. Two years *later* he was observed by his mother to limp slightly in walking, but complained of little or no pain. From the caution, however, which had been given to the parent at the time I was consulted about the previous case, to notice at an early period any symptom of this nature in her children, *the fact was immediately attended to.* The affection was evidently in the hip; there was imperfection in the gait, and pain upon pressing over the hip-joint. A blister was applied, perfect rest to the limb enjoined, and steel medicines ordered; and in a fortnight the motions of the joint were restrained more effectually by the application of strips of soap plaster and a bandage. In three months the child was ordered to the seaside, and eventually was able to walk without the slightest limp or pain, and may be said to be quite well.

I would not say that in the first case, if the disease had been discovered early, and at that time met by judicious medical treatment, a stiff knee and shortened limb would have been prevented, although this is my belief; but as to the latter case, I have no hesitation in saying that, if the disease had not been detected as soon as it was, the remedial measures might have failed,—certainly the result would not have been so highly satisfactory as it was.

CHAPTER XI.

ACCIDENTS AND DISEASES WHICH MAY OCCUR AT BIRTH OR SOON AFTER.

There are many circumstances of more or less frequent occurrence, involving the happiness of the parents, and the present and future welfare of the child, immediately connected with its birth, or arising soon after, of which the attendants in the lying-in room ought not to be ignorant. Thus the child may be born apparently dead (still-born as it is termed), and, unless the most active exertions are made, will be lost. The superintendence of the means used devolves upon the medical man, but it would be often well if his assistants were already acquainted with the measures to be pursued, that they might be carried into effect with more promptitude and success than they now frequently are. It must be remembered that in a rapid labour the child is not unfrequently born before it is possible for medical assistance to be procured, and it may happen in such a case that it is still-born. Again, deformities occur, happily not very often; still, when the event does arise, it is most important it should not be discovered to the mother immediately upon the birth of the child by a sudden exclamation of surprise on the part of the attendants, which undoubtedly will be the

case, unless a hint of this kind is given, and they are put upon their guard; but a fit and proper opportunity must be chosen when the communication may be made tenderly and cautiously, and with the least danger of causing distress or producing excitement. It may be a defect in the bowel or urinary passage, which the nurse only discovers, after a few hours, by the fact of nothing passing through these passages. Now, she is not at once to make the circumstance known to her mistress, but should do so quietly to the medical man, who having given what professional aid the case demands, will exercise his own judgment in revealing it or not to the parent at this time or hereafter. And so at a later period, about the second or third day after the child's birth, an inflammation sometimes attacks the eye, which is of considerable consequence, and the more so from its commencing in a way not calculated to excite alarm. The child cannot express its sensations, and the swelling of the eye conceals the progress of the disease, so that serious mischief is frequently done before the medical man sees the patient. The inflammation is not immediately noticed, and the measures employed are frequently insufficient to check its progress. This causes more blindness (I refer to the lower classes of society more particularly) than any other inflammatory disorder that happens to the eye; and the number of children is very considerable whose sight is partially or completely destroyed by it. The parent or nurse is apt to suppose, when this inflammation first appears, that it is merely a cold in the eye, which will go off; and the consequences which I have just mentioned take place, in many cases, before they are aware of the danger, and before the medical man is resorted to for assistance. These, then, and many

other morbid conditions connected with the infant, will occasionally be met with in the lying-in room, and although one and all will demand the professional attendant's care and management, enough has been said, I think, to prove, that the unprofessional attendants ought to be aware of their existence and possible occurrence, that they may act discreetly as circumstances arise, early call his attention to them, and subsequently carry out his directions with promptitude and exactness.

Sect. 1.—Still-born.

This condition may exist in a greater or less degree: the infant may be completely still-born, with no indication of life, except, perhaps, the pulsation of the cord, or a feeble action of the heart;—or it may make ineffectual efforts at breathing, or even cry faintly, and yet subsequently perish for want of strength to establish perfectly the process of respiration. Under all these circumstances, a good deal can often be effected by art. In every instance, therefore, in which we have not positive evidence of the child being dead, in the existence of putrefaction, or of such malformation as is incompatible with life, it is our duty to give a fair trial to the means for restoring suspended animation; and as long as the slightest attempt at motion of the respiratory organs is evinced, or the least pulsation of the heart continues, we have good grounds for persevering and hoping for ultimate success.

The measures to be employed to restore a still-born child will be a little modified by the circumstances present.

If there is no pulsation—no beating in the cord,

when the child comes into the world, it may at once be separated from the mother. This is to be effected by first tying the navel-string with common sewing thread (three or four times doubled), about two inches from the body of the child, and again two inches from the former ligature, and then dividing the cord with a pair of scissors between the two. And now the means for its restoration are to be made use of, which are detailed below, viz., inflation of the lungs, and perhaps the warm bath. If, with the above circumstances, the child's face be livid and swollen, some drops of blood should previously be allowed to escape before the ligature is applied to that part of the navel-string which is now only attached to the child.

If there is pulsation in the cord, but respiration is not fully established, it must not be divided: and as long as pulsation continues, and the child does not breathe perfectly and regularly, no ligature should be applied. The first thing to be done here, is to pass the finger, covered with the fold of a handkerchief or soft napkin, to the back of the child's mouth, to remove any mucus which might obstruct the passage of air into the lungs, and at the same time to tickle those parts, and thereby excite respiratory movements. Then at short intervals suddenly and forcibly blow on its face and chest. Everyone knows the convulsive gasping which the shock of sudden cold produces. Rub the chest with the hand, and give a gentle shock to the body by slapping the back. A little perseverance in the employment of these means will often establish respiration, and save the necessity of further measures. If, however, they fail, the chest and soles of the feet must next be rubbed with spirits, the nostrils and back of the throat irritated with a feather

previously dipped in spirits of wine, and ammonia or hartshorn may be held to the nose.

Inflation of the lungs.—The above means not having been successful, and the pulsation in the cord having ceased, the infant must be separated, and inflation of the lungs resorted to. This is to be effected gently and cautiously as follows :—The child, wrapped in flannel, is to be laid on its back upon a table placed near the fire. Its head is to be slightly extended, and the nostrils held between the fingers and thumb of one hand, whilst with the fingers of the other slight pressure is to be made upon the pit of the stomach, so as to prevent the air from passing into that organ. The lungs of the child are now to be filled with air, by the operator applying his own lips—with the fold of silk or muslin intervening, for the sake of cleanliness—to those of the child, and then, simply blowing in its mouth, he is to propel the air from his own chest into that of the infant. Previously, however, to his doing this, he should make several deep and rapid inspirations, and, finally, a full inspiration, in order to obtain greater purity of air in his own lungs. When the chest of the child has been thus distended, it is to be compressed gently with the hand, so as to empty the lungs; and then the inflation, with the alternately compressing the chest, must be repeated again and again, until either the commencement of *natural respiration* is announced by a sneeze or deep sigh, or until after *long-continued, steady, persevering*, but unavailing efforts to effect this object, all ground of hope for a successful issue is removed. Whilst these efforts are being made, some other individual must endeavour to maintain or restore the warmth of the infant's body, by gently but constantly pressing and

rubbing its limbs between his warm hands. And after respiration is established, the face must still be freely exposed to the air, whilst the warmth of the limbs and body is carefully sustained.

It will sometimes happen—and to this circumstance the operator should be fully alive—that when the child begins to manifest symptoms of returning animation, its tongue will be drawn backwards and upwards against the roof of the mouth, filling up the passage to the throat, and preventing further inflation of the lungs. This is to be remedied by the introduction of the forefinger to the upper and back part of the child's tongue, and gently pressing it downwards and forwards, by which the difficulty will be removed, and the air again passes.

The warm bath.—More reliance may be placed upon the above measures to restore animation than upon the warm bath. Still this is sometimes useful, and therefore must not be neglected. Whilst inflation is going on, the bath may be got ready, then resorted to, and if unsuccessful, inflation may and ought again to be followed up. If the bath is useful at all, it will be so immediately upon putting the infant into it; respiration will be excited, followed by a cry; and if this does not occur at once, it would be wrong to keep the child longer in the bath, as it would be only losing valuable time which ought to be devoted to other efforts. The temperature of the bath should be about 100°; and if, upon plunging the infant into it, it fortunately excite the respiratory effort, it should then be taken out, rubbed with dry but hot flannels, and, when breathing is fully established, laid in a warm bed, or, what is still better, in its mother's bosom; letting it, however, have plenty of air.

We should not relinquish our endeavours at resuscitation under two or three hours, or even longer; and if ultimately successful, the state of the infant should be carefully watched for two or three days.

Sect. 2.—Injuries received during Birth.

If a labour be long and tedious, the head and body of the child may be bruised and disfigured.

The shape of the head is frequently altered by the compression it has undergone, so that it may be elongated, and measure from the chin to the back of the head as much as six or seven inches. This always excites surprise, sometimes apprehension, in the minds of the attendants; there is no ground for it. It must be allowed to regain its natural shape without interference.

Tumours or swellings upon the head are very common. They arise from pressure upon the part during the labour. The only treatment that is required, or safe, is, freedom from all pressure, and the application of cold lotions composed of brandy or vinegar and water. The swelling will gradually subside. It will be right to direct the attention of the medical man to this circumstance.

The face may be frightfully disfigured from the above cause, exceedingly black, and the features distorted. Nothing is necessary here; in a few days the face will recover its proper appearance.

Sect. 3.—Bleeding from the Navel-String.

Bleeding from the navel-string will sometimes take place hours after it has been supposed to be carefully secured. This will arise either from the cord being

carelessly tied, or from its being unusually large at birth, and in a few hours shrinking so much that the ligature no longer sufficiently presses on the vessels. In either case, it is of importance that the attendants in the lying-in room should understand how to manage this accident when it occurs, that it may not prove injurious or fatal to the child.

The mode of arresting the bleeding.—The clothes of the child and the flannel roller must be taken off; the whole cord without delay must be unwrapped; and then a second ligature be applied below the original one (viz., nearer to the body of the infant), taking great care that it shall not cut through the cord when drawn very tight, but at the same time drawing it sufficiently tight to compress the vessels. The ligature should be composed of fine linen threads, three or four thicknesses, and not of tape or bobbin, or any substance of this nature, as it cannot be relied on for this purpose.

Sect. 4.—Ulceration, and Bleeding from the Navel.

Ulceration, or imperfect healing of the navel.—The cord separates from the navel generally some time between the fifth and fifteenth day from delivery, and the part usually heals without giving the slightest trouble.

This, however, is not always the case, for sometimes a thin discharge will take place which, if the part be examined, will be found to proceed from a small growth about the size, perhaps, of a pea, or even less. This must be removed by applying a little powdered alum, or, if this fail, it should be once or twice slightly touched with blue stone, and afterwards dressed with calamine cerate.

At other times, though fortunately very rarely, excoriation of the navel and the parts around takes place, which quickly spreads, and assumes an angry and threatening character. If, however, the attention of the medical man is called to it early, it will always do well: until his directions are given, apply a nicely made bread-and-water poultice.

Bleeding from the Navel.—A day or two after the cord separates, or at the time of separation, bleeding may take place from the navel; fortunately, this rarely occurs; and I only mention it, to observe that, upon its occurrence, the point of the finger should be placed over the part, and pressure steadily applied until medical assistance is obtained.

Now and then, in these cases, a growth sprouts up and bleeds. Let this be touched with lunar caustic, or any other astringent application, or let pressure be employed, still it will bleed,—not freely or in a stream, but there will be a constant drain from the part, and the infant as a consequence will waste, and be brought to death's door. Excise it, it will only make matters worse. The treatment in this case consists in simply winding a piece of very narrow tape round the growth, and then leaving it untouched. The bleeding will soon cease; the fungus will sprout over the upper margin of the tape; in a very short time it will, as it were, strangle the disease, which, subsequently falling off, a complete cure is accomplished.

Sect. 5.—Jaundice.

It frequently happens, during the first or second week after birth, that the skin of the child becomes very yellow and it has all the appearance of having

the jaundice. This gives rise to great distress to the parent when she perceives it, and she becomes very anxious for the medical man's next visit. Now, ordinarily, it is of no consequence; commonly disappearing spontaneously, and requiring no medical treatment. If, however, it does not go off in two or three days, a tea-spoonful of castor oil should be given once, or oftener if necessary.

It is, of course, possible for an attack of real jaundice to occur at this early period, and a disease of a very serious nature will then have to be dealt with; but, except as a consequence of malformation (a very unfrequent occurrence), it is not likely to arise; and therefore, jaundice during the first and second week after delivery need not, as a rule, create alarm.

Sect. 6.—Retention of Urine and Motions.

Occasionally an infant will not pass any urine for many hours after its birth. This most frequently arises from the fact of none being secreted. In the last case of this kind that I was called to, three days had elapsed since birth, and no urine had been passed; it proved that none had been secreted. Sometimes, however, it is the effect of another cause, which the use of the warm bath will be found to remove, which should always therefore be employed four-and-twenty hours after the birth of the infant, if it has not by that time passed any water.

It now and then happens, but fortunately very rarely, that some physical obstruction exists. It is always important, therefore, for the nurse to pay attention to the above point; and it is her duty to direct the attention of the medical man to the subject, if any-

thing unusual or unnatural be present. The same observation applies to the *bowel* also; and if twelve hours pass without any motion, the parts should be examined.

Sect. 7.—Swelling of the Breasts.

At birth, or two or three days subsequently, the breasts of the infant will frequently be found swollen, hard, and painful, containing a fluid much resembling milk. Some nurses endeavour to squeeze this out, and thus do great mischief; for by this means inflammation is excited in the part, and sometimes abscess is the result.

If the breasts are simply slightly enlarged, it is unnecessary to do anything more than rub them occasionally and very gently with warm almond oil, and in a little time they will be restored to their proper size.

If, however, they are inflamed, hot, painful, with a red surface, and unusually large, a bread-and-water poultice must be applied every three or four hours, which will generally prevent either the formation of matter, or any other unpleasant consequence. In a few days, under this treatment, they will usually subside, and be quite well.

Sect. 8.—Inflammation of the Eyes.

I only desire, in mentioning this complaint, to inform the attendants of the lying-in room of its great importance that it may not be trifled with, that *upon its first approach* the physician may be informed of it, and that the treatment he directs for its cure may be sedulously and rigidly followed.

The inflammation commonly comes on about three

days after birth, but it may take place at a later period. It may be known by its commencing thus :—When the child wakes from sleep, the eyelids will be observed to stick together a little ; their edges will be redder than natural, and especially at the corners ; the child experiences pain from the access of light, and therefore shuts the eye against it. A little white matter will also be observed lying on the inside of the lower lid. After a short time, the lids swell, become red on their external surface, and a large quantity of matter is secreted, and constantly poured from the eye ; the quantity of discharge increasing until it becomes very great. But enough has been said to point out the importance of the disease, and the signs by which it may be recognised at its first approach.

Keeping the eye free from discharge, by the constant removal of the matter secreted, is what the medical attendant will chiefly insist upon, and unless this is done, any treatment he may adopt will be useless ; with it there is no doubt of a successful issue of the case, provided his attention has only been called to it at a sufficiently early period.

Sect. 9.—Hare-Lip and Cleft-Palate.

This is a blemish too well known to require a formal description. The questions most interesting to a mother in relation to it are :—How does it affect the child's feeding? And when ought the operation for its relief to be undertaken?

Hare-lip most frequently affects the upper lip, though it may occur very rarely on the lower lip. It may or may not be complicated with a cleft in the roof of the mouth. When simple and in its slighter forms

it seldom interferes with the child's sucking, but when the roof of the mouth participates in the deformity, there will be greater risk of the child not being able to suck properly. In its least degree it occasions considerable deformity, but fortunately it is one which the surgeon can easily remedy. And it is desirable, provided the child be healthy and well, to have the operation done within the first six months, so that it may be well over before the child begins with its teeth. When carefully done, the operation is neither a long one nor a dangerous one. As a rule, I would advise its performance at about the fourth month. But should the infant experience any difficulty in sucking, and should there be any appearance of mal-nutrition as a result, then I would advise the operation at a still earlier age.

In complicated cases, where the cleft exists on both sides, I would advise a consultation with the medical attendant, as the course to be adopted will vary in individual cases.

Cleft-Palate.—This deformity consists in a cleft along the roof of the mouth. As in the case of the hare-lip, so here also there are varying degrees. In the slightest forms, the uvula alone is cleft—next, the cleft may involve the posterior half of the palate (i.e., the soft palate), or it may extend forward to the teeth, or, as said in the last paragraph, it may involve the lip also. This deformity is now-a-days easily remedied in a large proportion of cases, but the operation should not be undertaken before the child is two years of age. Neither should it be postponed too long, as, even if the children learn to talk at all, they acquire a 'twang' which, to say the least of it, is not agreeable, and which cannot be got rid of, if it is once really acquired.

The mode of feeding the infant.—If the defect is but trifling, the infant will be able to suck, provided the mother's nipple be large, and the milk flows freely from it. If this is not the case, the difficulty may be obviated by using the nipple shield already spoken of.[1] I have known this to answer the purpose admirably, when the mother had previously despaired of nursing her infant, the nipple being too small for it to grasp.

If, however, the defect exists in a still greater degree, feeding by means of the spoon must be resorted to; the greatest care being necessary as to the quantity, quality, and preparation of the food. For instruction upon these points, see 'Artificial Feeding,' page 55.

Sect. 10.—Tongue-tied.

This arises from the bridle under the tongue being so short, or its attachment to the tongue extended so near the tips as to interfere with the motions of the organ in sucking, and, in after years, in speaking. It is a *rare occurrence*, although nothing is more common than for medical men to have infants brought to them supposed to be labouring under the above defect.

How its existence may be determined.—The best guide for a parent to determine whether it exist or not, is for her to watch whether the infant can protrude the tip of the tongue beyond the lips: if so, it will be able to suck a good nipple readily, and nothing need or ought to be done. No mother will unnecessarily expose her infant to an operation which, unless very carefully performed, is not altogether unattended with danger; and if she suspects any defect of this kind to exist, she has only to observe the circumstances mentioned above, to satisfy her mind upon the subject.

[1] 'Hints to Mothers,' p. 206.

Sect. 11.—Moles and Marks on the Skin.

The supposed influence of the imagination of the mother, in the production of the above appearances in the texture of the skin of her infant, has been fully discussed in the author's work 'Hints to Mothers,' and as this part of the subject is foreign to the present inquiry, which chiefly has reference to the probable effect of their presence upon the health of the child, it is unnecessary again to refer to it here. These appearances may be divided into two classes: the brownish mole, and claret-stain; and small but somewhat elevated tumours, either of a dark blue, livid colour, or of a bright vermilion hue.

Moles and Stains.—They are of no importance, so far as the health of the infant is concerned. If situated on the face, however, they frequently cause great disfigurement, as the claret-stain, which may be seen sometimes to occupy nearly half the face. But they happily do not increase in size, remaining stationary through life; and as any operation that might be proposed for their removal would only cause an equal, if not greater, deformity, they ought to be left alone.

The Nævus.—Nævi vary in their number, size, and situation. The same child is sometimes born with many of them. They may be as small as a pea, or as large as a crownpiece. They are not only found on the skin, but on the lips, in the mouth, &c. These, also, sometimes remain stationary in their size, having no tendency to enlarge, unless, indeed, they are subjected to friction or pressure. But as they frequently require surgical aid—in which case, the earlier the application of remedial measures, the less severe will

they be, and the greater is the probability of a speedy and successful result—so is it *always* important for the mother at once to obtain a medical opinion, that the measure of interference or non-interference may be decided.

If they occur on the body, or on the limbs on a part which is covered up and out of sight, they need not be meddled with, unless they continue or commence to grow.

CHAPTER XII.

OTHER ACCIDENTS OF INFANCY AND CHILDHOOD.

Accidents, more or less serious, are daily occurring to children. Of course they take place suddenly—in a moment; and, in nine cases out of ten, the parents and attendants, greatly alarmed, know not what to do, or perhaps ignorantly do the very thing they ought not. Suddenly rousing the parental feelings incapacitates the mind for action, unless, indeed, it be in some degree prepared by previous instruction. This knowledge, however, is seldom possessed, unless circumstances at some former period have arisen to give it. A few hints, then, for *immediate* guidance and direction in case of need, may not be unwelcome or useless. The principal information, however, which it is proposed to communicate, is just that which may be advantageously used before surgical aid can be obtained. If the mind of the mother or attendant is fully impressed with the necessity of doing one thing, and that the best that can be done, no time is lost, hurry and excitement are avoided, and the mischief is not increased. A few words under the separate heads will amply suffice to convey all that need be said.

Sect. 1.—Scalds or Burns.

The danger to be apprehended from a scald or burn must always be mainly in proportion to the extent of surface scalded, or the length of time the burning body continues in contact with the skin.

Scalds.—Immediately remove the child from the source of the injury. Undress him, but in doing this be very careful that the blistered part is in no way rubbed, so as to endanger the breaking of the blister, or the tearing off the cuticle; this would increase the danger of the accident. The outer garments may generally be taken off without fear, but the body linen requires great caution, lest any portion of it adhere to the wounded part; if this is found to be the case, the linen or flannel shirt must, if necessary, be cut away piecemeal, leaving that portion untouched which adheres to and covers the sore. Having put the child to bed, cover the injured part with three or four thicknesses of cotton-wadding, and so apply it as completely to exclude the external air; a bandage or something of the kind will best accomplish this object by keeping the cotton in close contact with the part. If the scalds have been severe, or not, and the extremities are disposed to be cold, or the child to shiver (and delicate children are very prone to be thus affected, even when but very slightly scalded, from *the shock* which is given to the system), apply warm water bottles to the feet, and give a small quantity of wine and water. And now wait until the medical man arrives.

Burns.—Should the clothing of a child take fire, let it be remembered that the upright posture is obviously not only favourable to the spreading of the

flames, but to their reaching the more important parts of the body, the neck, and head. Any motion of the body to and fro gives great advantage to the flames by bringing fresh currents of air in contact with the burning materials, and it is, therefore, utterly absurd to allow the child to run screaming about. Throw him down upon the floor; keep rolling him over and over upon the carpet; if possible seize the hearth-rug, or table-cover, or strip yourself of your shawl, and envelop the child in it as closely and completely as possible. In this way you will most readily put out the fire. Never carry the child out of one room into another, and if possible avoid opening doors, as this greatly favours the spread of the flames.

With regard to treatment, the same plan must be pursued as in scalds. Undress the child, attending to the precautions given above. Put him to bed. Cover the burnt parts with cotton-wadding, most carefully excluding the external air. Keep the child warm, and therefore, if necessary, apply the warm water bottles to the feet, and give a little wine and water to drink. And now wait the arrival of the medical attendant. It might so happen that cotton-wadding is not at hand, in which case you may use in its stead linen well soaked either in sweet oil, or milk, or cream.

Two further remarks only are necessary, and which have reference to both accidents. On their first occurrence, or during the progress of the case, the attendants not unfrequently give laudanum to quiet the restlessness of the child;—this remedy may be required, and if so the medical man will give it; but never allow an unprofessional person to administer it, as serious results might ensue. Again, it cannot be too widely known by parents and friends that when a scald or

burn is extensive, or if it is not so when situated on certain parts of the body, that it may give rise to the most serious deformity, and that no efforts whatever of the surgeon can possibly prevent this. It is just to all parties to bear this fact in mind.

Sect. 2.—Swallowing Boiling Water.

Death from the accidental swallowing of boiling water, from the mouth of a tea-kettle or tea-pot, is by no means uncommon among young children. It occurs, however, chiefly among the children of the poorer classes, and is due to the pernicious habit of allowing children to drink water or cold tea from the spout of the tea-pot. I would earnestly caution parents against such a practice. In the majority of instances the child is too quickly alarmed by the pain to complete the deglutition of the boiling water, and it is no sooner in the mouth than it is immediately got rid of. But yet the tongue, mouth, and the parts at the back of the throat are scalded by the steam, even though no water be sucked in, and the delicate mucous membrane of the pharynx (the hinder part of the mouth), and the entrance to the air passages immediately swells up, and gives rise to the most dangerous and distressing symptoms. In such cases, at once seek the aid of your medical adviser, and if possible, in an interval procure some ice, let the child suck pieces, and let everything—milk, water, or tea, be iced: apply *a cold compress* of ice to the neck. Such a compress is most easily made, by wringing an old soft pocket-handkerchief out of iced water and frequently renewing. If you cannot directly obtain help, you may in addition to the above measures apply

a couple of leeches, one on each side of the windpipe close beneath the chin. Let the child be put to bed, and be kept as quiet as possible. Such measures will sometimes be followed by the best effects.

Sect. 3.—Bruises.

A simple, uncomplicated bruise (the appearance of which everybody is familiar with) requires very simple treatment. If more severe, the medical man must be sent for. However, until his arrival, both may be treated alike. Apply then cold water to the part, and you may put some nitre into the water, if you have any in the house to make it colder. Dip into the water a piece of linen rag, folded once or twice, and proportioned to the size of the bruise, and lay it upon it, and renew this application sufficiently often to maintain its coldness. Or you may substitute for this, if you can procure it, ice, which must be broken into small pieces, put into a bladder, and applied.

It is important to give this caution: in case the blow occur *to the head* of a young child, do not think too lightly of the circumstance. Its health should be watched for some time afterwards, and the medical man consulted as to its management; for want of such care, I have again and again seen serious results. One of the worst cases of convulsions that I was ever called to, was clearly traceable to a blow on the back of the head, received from a fall out of the nurse's arms two or three weeks previously, which had been all but forgotten, and thought of no consequence. If the fall or blow is followed by paleness and vomiting, *never* delay to place the child under medical care.

Sect. 4.—Wounds.

These will either be clean, as when made by some sharp-cutting instrument, as by a knife,—or torn, as by a broken plate, or such as would be produced by a fall on the ground and occasioned by rough gravel. In either case, if the accident be severe, medical aid must be sought; a few plain directions, however, for the management of the lesser forms of accident may be useful.

And first, of what you are not to do. Do not apply the favourite and very popular remedies, Tincture of Benjamin or Friar's Balsam; they do no good, but positive harm, by hindering the subsequent healing of the wound. Applications of this description have, in delicate children, caused a trifling cut to become a dangerous sore.

Take then a soft sponge and some cold water, and bathe the wound so as to arrest the slight bleeding which may be going on;—or if you have reason to believe from the way in which the accident happened that any foreign substances are lodged in the wound, such as gravel, dirt, or glass, take tepid water and freely sponge the part until the wound is clean; but if you find that the foreign matters cannot be easily extracted, apply a bread-and-water poultice; suppuration will ensue, and the particles readily discharge themselves. Such a case, however, demands the surgeon's care, and ought to have it if possible. Having then cleaned the wound, bring the edges together, and keep them in apposition by means of strips of adhesive plaister laid across the wound. The plaister must, of course, be cut of convenient length and width to the

size of the wound: long and wide, or short and narrow, as the wound may be large or small. So dressed, it may remain for three, four, or more days, in fact so long as the dressing continues firmly attached and gives no pain: but it will generally become loose about the fourth or fifth day, and, if removed, the chances are that the wound will be found healed, or at all events the greater part of it, and to the remainder fresh dressing may be applied.

The most important point of all is to know what to do in a case of severe bleeding before the arrival of the surgeon. *Pressure well applied is the remedy.* For this purpose, if the wound is in the trunk, take a piece of lint or rag, double it three or four times, and keep it pressed firmly upon the part until professional assistance is obtained. In the case where the finger or any part of either extremity is wounded, a bandage should be applied over the lint, and tied tightly round the limb, so as to keep up firm and continued pressure. This advice is frequently misapplied—rag after rag is heaped upon the part, and pressure is no longer made.

Sect. 5.—Broken Limbs.

When a child meets with an accident, and it is suspected that a bone is broken from the nature of the complaint he makes and the deformity of the limb, such as its being bent, shortened, or twisted, much immediate additional suffering to the patient, and increased mischief to the injured part, may often be saved by a little care and management. In lifting the child from the place where the accident happens, and carrying him to a couch or bed, let it be one person's

business to take charge of the broken limb, and, instead of allowing it to dangle loosely, carefully place it upon a soft pillow, and tie it up firmly, so as to protect it from all jar and shaking. In this way a child or an adult may travel some distance without any fear, and with very little inconvenience. Do not attempt to undress the patient, but wait for the surgeon's arrival. In the meanwhile, the bed could be prepared; the most proper for such a patient is a firm, but not hard, mattress, with two or three under blankets for the sake of warmth.

Sect. 6.—Sprains.

If a severe sprain should occur, it ought not to be trifled with, but the surgeon consulted, for the consequences are sometimes more lasting than of a broken bone. This observation particularly applies to the sprains of the knee or ankle-joint. Even slight sprains, *neglected*, occasionally terminate in the establishment of serious disease, a result which a little care and prudence would have altogether prevented. Again, the cure of these accidents demands not only much care, but much *patience* also, for their consequences, as a stiff wrist, for instance, will require perhaps many weeks before perfect freedom of motion and use are regained.

If the knee or ankle-joint is sprained, put the child to bed; if an upper extremity, this is not necessary; but in either case, it is *rest*, freedom from all motion of the injured part, that you are to aim at; place the limb therefore in that position which secures this object most completely. The best application in such a case is *the ice-bag*; but it must be regularly attended

to, and care must be taken that fresh ice is supplied as often as is necessary. The sprained parts generally become hot and inflamed, and the ice soon melts. The success of the ice treatment depends on a regular and constant temperature. Sometimes, however, the cold is disagreeable to the patient, and cannot be tolerated; then apply hot fomentations or hot poultices; the sprain will get better under either plan of treatment, provided it have been well carried out; with absolute rest in bed, and such other measures as may seem indicated—for instance, a dose of purgative medicine. In the later stages, the limb must be cautiously but regularly used in order to overcome the stiffness, which will generally be in proportion to the length of time during which its movements have been suppressed.

In reference to the poultice, a better and more cleanly remedy is *the water dressing*, which consists in passing a piece of lint or rag twice or thrice round the injured part, and saturating it with tepid water, and then carefully covering the whole with oiled silk; this prevents evaporation, and thus the whole part is kept in a continual soothing vapour-bath. This application is a much less troublesome one than the poultice, and answers equally well.

Although the accident in the first instance may have been thought slight, yet if after the application of the fomentations for an hour or two the child complain of much pain, it is always wise to send for medical aid; leeches or other treatment may now be necessary, and delay in the use of such measures might be mischievous.

Sect. 7.—Foreign Bodies in the Ears and Nose.

A foreign body occasionally gets into the ear or up the nostril of the child. If it be a hard substance, such as a glass bead or a shell, its remaining in a few days will not be of much consequence, and it may probably drop out, unless indeed it has been forced in; but if it be a pea, or bean, or seed, indeed anything of a kind that can imbibe the moisture of the part, and so become swollen, the sooner it is removed the better, for the longer it remains, the firmer, from its increasing size, will it be fixed, the greater suffering will it give, and the more difficult will be its removal.

'If the pea or shell be *in the nostril*,' says Mr. South, 'the child should be made to draw his breath in deeply, and then, closing the other nostril with the finger, and closing the mouth firmly, to snort forcibly through that side of the nose in which the substance is lodged. If this be done soon after the accident, two or three efforts usually shoot the unwelcome lodger out. But if this do not succeed, the nose might be tightly nipped with the finger and thumb above the pea or shell, so as to prevent it getting further in, and then the eyed end of a bodkin or probe, having been a little bent, must be gently insinuated between the bottom of the nose and the substance, and when introduced sufficiently far, must be gently used as a hook to bring it down. Pushing it back into the throat should not be tried, as not unfrequently so doing only fixes it the more firmly. If a doctor be within reach, it is better at once, if the substance cannot be snorted out, to take the child to him, as he will be able to manage the matter better and more readily the earlier he is applied to.

'It is of much greater consequence when anything has been pushed *into the ear*, as, though the passage is short, its nearly circular form and smooth surface more readily permit its being quickly thrust almost to, or even quite down to the drum of the ear. The passage is also so narrow that it is difficult to get in either the end of a bodkin or eyed probe between the substance and the ear-passage, and not unfrequently, indeed, it is pushed farther in. If it were advisable to attempt the early removal of any swellable body from the nose, it is ten times more so when such is lodged in the ear-tube, nearly the whole of which being unyielding, the agony which the swelling body produces by its enlargement is extreme. The doctor therefore should be immediately sought for. No syringing with water or any other fluid should be resorted to, as it will excite the pea to swell, and increase the mischief; and dry heat alone must be employed.

'If, however, a hard body, as a shell or button, or bead, be pushed into the ear, syringing with water may be used with advantage, as if the water pass in any way between the hard body and the ear-drum, it will not unfrequently force it out. The head should be laid down, so that the ear in which the hard body is, should be undermost, and in this position the water should be thrown up with the syringe, the nozzle of which, however, must be held at some little distance, and not put into the pipe of the ear, or it will prevent the hard body dropping out. Whilst the head is thus laid on its side, I have known the offender ousted by a smart box on the other ear.'[1]

[1] *Hints on Emergencies*, p. 299.

Sect. 8.—Choking.

Some children eat much too fast; they bolt their food rather than eat it; and now and then a large portion sticks by the way; sometimes a fish bone or other bone is swallowed, and is similarly placed;—sometimes a metallic body, as money. Now any one of these substances may stick at the back of the throat—in the gullet itself, higher or lower—or may at once pass down into the stomach.

If the first take place whilst the child is eating, and he appears choking, it is always advisable immediately to thrust the finger and thumb as far back into the throat as possible, and if there be anything there, to attempt to pull it out at once; whilst you are doing this sometimes a fit of coughing will take place and expel it.

If the second occur, a child for instance eating hastily and carelessly, and bolting a large piece of meat, it sticks in the gullet, make the child take large draughts of water, and at the same time make powerful efforts to swallow; the water will frequently dislodge the food, and both pass down into the stomach together; but if this happy result does not take place, medical aid must be obtained forthwith. If it be a piece of bone or a pin that is swallowed, and it lodges by the way, there need be no alarm, but instead of water, first give the child a crust of bread, see that he chews it coarsely, and then make him swallow it, taking at the same time a gulp or two of water, and the chances are in favour of the bone or pin being carried down into the stomach.

Of the treatment of things that pass down at once

into the stomach, such as pieces of money, buttons, and many articles of a like kind which children, playing with, frequently put into the mouth, and sometimes swallow, little need be said, for they are seldom followed by any serious consequences. Sooner or later the foreign body passes through the alimentary canal with the food, and is thus got rid of. I may add, however, that in this case it is a very common practice —and a very foolish one—to give repeated doses of aperient medicine; now unless the bowels should become confined, such a measure is rather injurious than useful.

Of substances getting into the *windpipe* it would be useless to say anything to the unprofessional reader, except—Send for the doctor.

Sect. 9.—Stings of Insects.

Children are perhaps more frequently stung by *bees* and *wasps* than adults. The first thing to be done is to examine the wound with a lens, and if the sting is still in, to extract it with a pair of fine forceps or tweezers. If only part is left, this will be attended with difficulty; but by gently squeezing the sides of the wound, it may sometimes be pressed out. Then the best remedies to apply to the part are, either turpentine, hot vinegar, spirits of wine, eau de Cologne, or olive oil. If none of these are at hand, cold water simply will give great relief if used continuously. If the wound should look very angry or become very painful, a bread-and-water poultice or water dressing will be the best application. Subsequently if any œdematous swelling remains, a piece of soft linen soaked in soap liniment may be used.

For the bites of *bugs*, *fleas*, or *gnats*, the best remedy is eau de Cologne, so as to convert the itching into slight smarting; or the part may be smeared over with olive oil.

Sect. 10.—Poisons.

I have known in more than one instance the attendants upon a sick child give a lotion containing poison instead of the medicine, and cases have also again and again occurred where children finding bottles in a closet or elsewhere have out of curiosity swallowed laudanum, oil of vitriol, and the like. The alarm and distress suffered by the parents, having no immediate guidance or help, may be easily imagined. To know what to do on the spur of the moment is not only in all instances a source of the greatest relief, but in some cases, from the rapidly fatal operation of some poisons, a matter of life or death. Just a few directions, therefore, suited to such emergencies will not be out of place; the more particularly as everyone must feel that the more universally such information is diffused the better. Presuming then that the medical man will be sent for without delay, the following means may be employed until his arrival :—

Poisons.	Treatment.
Laudanum, in any form.	The great object is to remove the poison from the stomach. Give an emetic; the simplest is plenty of salt and warm water; or sulphate of zinc (white vitriol), ten grains;—or ipecacuanha, ten grains;—or tartar emetic, one grain every ¼ hour in a little warm water. Repeat the dose until copious vomiting is excited. Keep the patient constantly roused; walk him up and down the room, drag him along, and do not listen to his entreaties to be

Poisons.	Treatment.
	left to repose. Dash cold water over the head and face occasionally, and also put the feet in warm water. When the opium has been completely removed, coffee may be given.
Sulphuric acid (oil of vitriol). *Nitric acid* (aqua fortis). *Oxalic acid.*	Administer without delay chalk or magnesia, if you have it by you (a full table-spoon to every tumbler of water); but if not, scrape off the plaster from the wall of the apartment, or some whitening out of the kitchen, and mix it with water; give freely one of the foregoing. Whilst this antidote is being prepared, if vomiting is not already free, give an emetic. After the antidote has been freely given, use diluents, such as milk, so as to render the vomiting more easy.
Arsenic.	Empty the stomach by an emetic of ten grains of sulphate of zinc. Give milk both before and after the vomiting has begun, never allowing the strength to be exhausted by retching, the stomach having nothing to act upon. If you have not milk, flour and water will form a good substitute.
Corrosive sublimate.	Give the white of eggs beaten up in water; and if eggs cannot be immediately obtained, flour and water, or milk.
Goulard water.	If the child is not sick, give an emetic; sulphate of zinc (white vitriol) is best.
Lotions and Liniments.	If in doubt about the kind of poison contained in the lotion or liniment, give *an emetic immediately*, which, ridding the stomach of it, will of itself generally be all that is necessary, since these preparations most frequently do not contain much poisonous matter.

CHAPTER XIII.

DISORDERS OF THE STOMACH AND BOWELS OF INFANTS.

Disorder of the stomach and bowels, as shown by *indigestion, flatulence, vomiting, griping, and looseness*, is one of the most fruitful sources of the diseases of infancy. Only prevent these derangements and in nine instances out of ten the infant will be healthy and flourish. Experience daily proves that a large proportion of the children who die in infancy are lost from derangement of these organs as the primary cause. There are many causes which may give rise to these affections; some of them appertain to the mother's system, others to that of the infant. All are capable, to a great extent, of being prevented or remedied. It is, therefore, most important that a parent should not be ignorant or misinformed upon this subject. It is the prevention of these affections, however, that will be principally dwelt upon in this chapter, for let the mother ever bear in mind and act upon the principle that the prevention of disease alone belongs to her; the cure, to the physician. For the sake of clearness and reference, these disorders will be spoken of as they occur:—*in the infant at the breast —at the period of weaning—and in the infant brought up by hand.*

Sect. 1.—In the Infant at the breast.

The most frequent causes giving rise to derangements of the stomach and bowels in the infant at the breast, are unwholesome breast-milk, irregular nursing, the irritation of teething, and cold or damp.

1. Unhealthy breast-milk.—This may arise from the parent getting out of health,—a circumstance which will be so manifest to herself, and to those more immediately interested in her welfare, that it is only necessary just to allude to it here. Suffice it to say that there are many causes of a general kind to which it may owe its origin; but that the most frequent is *undue lactation*, a subject to which reference has already been made (p. 38), and the effects both upon mother and child fully dwelt upon. To cure derangement of the bowels from this cause, a wet-nurse is the only remedy.

Anxiety of mind in the mother will cause her milk to be unhealthy in its character and deficient in quantity, giving rise to flatulence, griping, and sometimes even convulsions in the infant. A fit of passion in the nurse will frequently be followed by a fit of bowel complaint in the child. These causes of course are temporary, and when removed, the milk becomes as healthy and sufficient for the child as before. Sudden and great mental disturbance, however, will occasionally drive away the milk *altogether*, and in a few hours.

Unwholesome articles of diet will affect the mother's milk, and derange the infant's bowels. Malt liquor that is not sound; salads, pickles, sour fruit, cucumbers, melons, acids, and the like. Too full and luxu-

rious a mode of living, by causing the milk to become too rich, will injuriously affect the child. Cases illustrating these facts have already been given in the first chapter.

In the same way, *aperient medicine* taken by the mother will act on the child's bowels through the effect which it produces upon her milk. This, however, is not the case with all kinds of purgative medicine, nor does the same purgative produce a like effect upon all children. It is well, therefore, for a parent to notice what aperient acts thus through her system upon that of the child, and what does not; and when an aperient becomes necessary for herself, unless she desire that the infant's bowels be moved, to avoid the former: if otherwise, she may take the latter with good effect.

Again, the return of *the monthly periods* whilst the mother is a nurse always affects the properties of the milk, more or less deranging the stomach and bowels of the infant. It will thus frequently happen, that a few days before the mother is going to be unwell, the infant will become fretful and uneasy; its stomach will throw up the milk, and its motions will be frequent, watery, and greenish. And then, when the period is fully over, the milk will cease to purge. It is principally in the early months, however, that the infant seems to be affected by this circumstance, for it will be generally found that although the milk is certainly impaired by it, being less abundant and nutritious, still, after the third or fourth month, it ceases to affect the infant. Is then a mother, because her monthly periods return after her delivery, to give up nursing? Certainly not, unless the infant's health is seriously affected by it, for she will generally find

that as the periods come round, by keeping the infant as much as possible from the breast during its continuance, and feeding him upon artificial food, she will prevent disorder of the child's health, and be able in the intervals to nurse her infant with advantage. It must be added, however, that a wet-nurse is to be resorted to rather than any risk incurred of injuring the child's health, and that in every case partial feeding will be necessary at a much earlier period than when a mother is not thus affected.

The milk may also be rendered less nutritive and diminished in quantity by the mother again becoming *pregnant*. In this case, however, the parent's health will chiefly suffer, if she persevere in nursing; this, however, will again act prejudicially to the child. It will be wise, therefore, if pregnancy should occur, and the milk disagree with the infant, to resign the duties of a nurse, and to put the child upon a suitable artificial diet—if, however, pregnancy should take place before the infant is six months old, a wet-nurse ought to be procured.

2. Irregular nursing.—This is one of the most frequent sources of derangement of the stomach and bowels of the child. The infant that is constantly at the breast will always be suffering, more or less, from flatulence, griping, looseness of the bowels, and vomiting. This is caused by a sufficient interval not being allowed between the meals for digestion. The milk, therefore, passes on from the stomach into the bowels undigested, and the effects just alluded to follow. Time must not only be given for the proper digestion of the milk, but the stomach itself must be allowed a season of repose. This evil, then, must be avoided most carefully by the mother strictly adhering to those rules for

nursing which have been laid down in the earlier part of this work.

3. **Teething.**—The bowels of the infant at the breast, as well as after it is weaned, are generally affected by teething. And it is fortunate that this is the case, for it prevents more serious affections. Indeed, the diarrhœa that occurs during dentition, except it be violent, must not be subdued; if, however, this is the case, attention must be paid to it. It will generally be found to be accompanied by a swollen gum; the freely lancing of which will sometimes alone put a stop to the looseness; further medical aid may, however, be necessary.

4. **Cold and Damp.**—Of course there are other causes besides those already alluded to, giving rise to bowel complaints during this period—causes not cognisable by the mother, however, and therefore not mentioned here. It is right, however, that she should be aware that these affections are sometimes the result simply of impressions of cold or damp, particularly at certain seasons of the year; in the autumn, for instance, when, as is well known, bowel complaints are very frequent. When thus produced, it is important early to seek medical aid, as inflammation is generally the result.

Sect. 2.—At the Period of Weaning.

There is great susceptibility to derangements of the stomach and bowels of the child at the period when weaning ordinarily takes place, so that great care and judgment must be exercised in effecting this object. Usually, however, the bowels are deranged during this process from one of these causes—from weaning too early, from effecting it too suddenly and abruptly, or

from over-feeding and the use of improper and unsuitable food. There is another cause which also may give rise to diarrhœa at this time, independently of weaning, viz., the irritation of difficult teething.

1. **From Weaning too Early.**—The substitution of artificial food for the breast-milk of the mother at a period when the digestive organs of the infant are too delicate for this change, is a frequent source of the affections now under consideration. The attempt to wean a delicate child, for instance, when only six months old, will inevitably be followed by disorder of the stomach and bowels. Unless, therefore, a mother is obliged to resort to this measure from becoming pregnant, or any other unavoidable cause, if she consult the welfare of her child, she will not give up nursing at this early period. But if she should be no longer competent to suckle, and her infant be delicate, a wet-nurse must be obtained; for the infant's bowels becoming disordered, medicine or remedies will avail little without healthy breast-milk.

The age at which weaning ought to take place must ever depend upon circumstances; the sixth month would not be too early for some, the twelfth would be for others. This, however, is spoken of elsewhere (p. 42).

2. **From sudden and abrupt Alteration of Diet.**—Depriving the child at once of the breast, and substituting artificial food, however proper under due regulations such food may be, will invariably cause bowel complaints. Certain rules and regulations must be adopted to effect weaning safely, the details of which are given in the article on weaning.

3. **From Over-feeding and the Use of Improper and Unwholesome Food.**—These causes are more pro-

ductive of disorder of the stomach and bowels at the time of weaning than any yet referred to. If too large a quantity of food is given at each meal, or the meals are too frequently repeated, in both instances the stomach will become oppressed, wearied, and deranged; part of the food will be perhaps thrown up by vomiting, whilst the remainder, not having undergone the digestive process, will pass on into the bowels, irritate its delicate lining membrane, and produce flatulence, with griping, purging, and perhaps convulsions. Then, again, improper and unsuitable food will be followed by precisely the same effects; and unless a judicious alteration be quickly made, remedies will not only have no influence over the disease, but the cause being continued, the disease will become most seriously aggravated. It is, therefore, of the first importance to the well-doing of the child, that at this period, when the mother is about to substitute an artificial food for that of her own breast, she should first ascertain what kind of food suits the child best, and then the precise quantity which nature demands. Many cases might be cited, where children have never had a prescription written for them, simply because these points having been attended to, their diet has been managed with judgment and care; whilst, on the other hand, others might be referred to, whose life has been hazarded, and all but lost, simply from the want of judicious dietetic regulation. Over-feeding, and improper articles of food, are more frequently productive, in their result, of anxious hours and distressing scenes to the parent, and of danger and loss of life to the child, than almost any other causes.

4. **Teething.**—The irritation occasioned by difficult teething may give rise to diarrhœa at the period

when the infant is weaned, independently of the weaning itself. Such disorder of the bowels, if it manifestly occur from this cause, is a favourable circumstance, and should not be interfered with, unless indeed the attack be severe and aggravated, when medical aid becomes necessary. Slight diarrhœa, then, during weaning, when it is fairly traceable to the cutting of a tooth (the heated and inflamed state of the gum will at once point to this as the source of their derangement), is of no consequence; but it must not be mistaken for disorder arising from other causes. Lancing the gum will at once remove the cause, and generally cure the bowel complaint.

Sect. 3.—In the Infant brought up by Hand.

Children brought up on an artificial diet are very liable to indigestion and bowel complaints; indeed, none more so: and it is from these affections that so many of these infants perish. When, therefore, it is absolutely necessary from untoward circumstances to have recourse to this mode of nourishing the child, the rules laid down in the section on 'Artificial Feeding' (p. 56) must be most strictly followed out, if the parent would hope to avoid disease and rear her child. And if unfortunately these affections should at any time manifest themselves, the mother ought carefully and diligently to examine whether the plan of feeding pursued is in every particular correct, especially bearing in mind that the two causes most frequently productive of disorder in the child are *over-feeding*, and the *exhibition of unsuitable food*—the two grand errors of the nursery. These results, however, have already been sufficiently dwelt upon as likely to take place at

weaning, and they may of course occur to a child who is brought up on an artificial diet at any period.

Sect. 4.—Maternal Management of these Disorders.

As must have been already seen, the maternal treatment of disorders of the stomach and bowels chiefly consists in the removal of the *cause* of the disorder: medicine may occasionally be exhibited by the mother, but its use in her hands must be very limited indeed. Unfortunately, the general resource and only remedy of most mothers in affections of the stomach and bowels is an aperient, and a combination containing calomel is the one too frequently selected. The primary cause of the disorder is undetected, and consequently no measures taken for its removal, but purgative powder after purgative powder is given, the evil being supposed to rest in the bowels alone, and that such means must eventually get rid of it. The mother is not aware all this time that the real source of the derangement is probably in the diet itself; that there is some error here, and that unless this is corrected, the remedies must be worse than useless. The consequence of such a plan of proceeding is usually very sad: a confirmed and obstinate diarrhœa but too commonly ensues, and the infant is sometimes reduced to the last extremity.

The removal of the cause of the disorder, then, in a large number of instances of derangement of the stomach and bowels, if effected early, will cure the disease, and without further remedy. But it will be asked, by what method is this cause to be detected? In this way. In all human probability the primary cause of the disorder is connected with the diet; this is the case in ninety-nine instances out of a hundred.

If the child is sick at the breast, ascertain whether the breast-milk is healthy and wholesome, or whether any circumstances exist which may have rendered it otherwise. If nothing faulty is found here, the next question would naturally be, whether the regulations laid down for suckling have been strictly adhered to. Or, whether the infant is sufficiently old to render it at all probable that a tooth may be irritating the gum. Perhaps the child is being weaned. Is the change being attempted too early? or too suddenly and abruptly? If this is not the case, has the child been over-fed, or is the food given of the proper description? Is the child being brought up by hand? Then, there is every reason to suspect, either that the food is not properly prepared, or that the quality of the food given is not the most suitable, or that the quantity exhibited is too great; in fact, that the rules laid down for 'artificial feeding' have not been strictly observed.

By a mode of investigation like this, any defect or error in the dietetic management of the infant producing the disorder will be easily detected by a careful mother; and its correction alone will, in very many instances, be all that is necessary to remove the symptoms. For example, if *flatulence and griping*, followed by diarrhœa, occur *to an infant at the breast*; if at the same time it becomes pale, its flesh flabby, its disposition fretful, always crying until it is put to the breast, the nipple of which it grasps eagerly, sucking eagerly, yet never satisfied, for its hunger continues, it is not nourished; if, too, the more it sucks, the more the stomach and bowels are deranged, the more it vomits and is purged; depend upon it the cause of all the evil will be found to be unwholesome milk. No medicine will avail anything here; the cause must be removed: the

best medicine, and the only remedy, is a breast of healthy milk. And if this is not procured early, there will be great danger of a diarrhœa setting in, which may probably prove fatal to the child. Again; if there is simply *vomiting* of the breast-milk almost immediately after the child has been suckled, the milk coming up pure and unchanged, and discharged without any apparent effort, and the moment after the child is cheerful and happy, this will be found to depend upon repletion, and not upon unwholesome milk; in fact, the stomach has received too much. This must be prevented in future, not by giving medicine, but simply by removing the infant from the nipple immediately it ceases to draw strongly, the moment it begins to dally with the breast.

If flatulence and griping occur *to the child brought up by hand*, this derangement will generally be found to result from over-feeding: abstinence and diminution of the quantity of the food will generally be all that is necessary here. It will be well, however, for the mother in this case, and she may do it with the utmost safety, to unload the bowels of their indigestible contents, by the exhibition of a tea-spoonful of castor oil. A dose or two of this medicine will effectually clear them out, without increasing the irritation, or weakening the child, whilst it will in most instances altogether remove the symptoms. If the flatulence, however, should continue, four or five grains of magnesia may be mixed with the last meal at night, and a little warm water thrown up into the bowel as an injection the next morning. Again, if *diarrhœa* occurs in a child brought up by hand, if it be not the result of over-feeding, it will very frequently be found to arise from unsuitable diet, or at least unsuitable to that par-

ticular child; for what will agree with one child often disagrees with another. Alteration of diet will sometimes be quite sufficient for the cure, if this alteration is only made early enough, before any considerable irritation of the stomach and bowels has been induced. Thin arrowroot made with water (prepared very carefully, or the child will refuse it) should be given for five or six days; the warm bath used every night for the same period, a new flannel bandage rolled round the body, and the child cautiously protected from a damp atmosphere. The arrowroot, upon the cessation of the diarrhœa, may have cow's milk added to it, if milk is not found to disagree: when this is the case, chicken or weak mutton broth, free from fat, or beef-tea, thickened with farinaceous food, with a little salt added, are the best substitutes. Should the diarrhœa not yield to the foregoing measures, and that readily, medical aid ought to be sought. Diarrhœa very frequently occurs from the time of weaning to the third year of age, and certainly in its effects forms so important a disease, that, unless in the slight form noticed above, a mother is not justified in attempting its relief.

In conclusion, I would observe, that I do not think a mother justified in attempting more than what has been laid down here for her guidance. It is believed that the few and plain common-sense directions given, if followed, will do much to prevent disease, and even to relieve it in its milder forms; they will not, however, cure disease itself when really established; and again I would repeat, let the mother recollect that to prevent disease is her province—to cure it, is the physician's.

CHAPTER XIV.

THE DISEASES OF CHILDREN.

Sect. 1.—Colds and Coughs.

A *neglected* cold or cough not unfrequently leads to consequences of the most serious kind. Because it is one of the commonest of all disorders of the nursery, it is too often disregarded, and thus the seeds of future disease are sown, which the adoption, at the time, of the most simple measures might have prevented. Perhaps, even now the reader is smiling at the importance given to this subject; experience, however, teaches a graver lesson, and shows that the path of wisdom is never to neglect the most trifling symptoms which are in any way connected with organs vital to life. A cold in the head may gradually creep down into the lungs, and cause inflammation of the air-tubes and substance of that organ—two of the most fatal diseases to which the human frame, particularly that of the child, is liable.

A cold, when properly managed, is usually a trivial disorder, running its course in a few days. Put the child's feet in a mustard foot-bath—keep him in bed—let him live upon slops—give at the outset a gentle aperient, and afterwards every four or six hours a little camphor julep with a few grains of nitre and a few

drops of antimonial wine—and the chances are, in eight-and-forty hours he is well.

Some children are always taking colds. The best means of *prevention* in these cases is the use of the cold shower-bath, as directed in the section on that subject. It will inure the surface of the child's body to a lower temperature than it is likely to be subjected to when out in the air, in the course of the day. If the child be too much alarmed at the shower-bath, sponging must be substituted.

A *cough* in infancy is usually connected with teething, and immediately the gum is lanced and the pressure caused by the tooth relieved, it ceases.

An ordinary cold, if the mucous lining of the upper and back parts of the throat is affected, will give rise to a cough which the means already pointed out will, ordinarily, arrest. Should the parent, however, observe the breathing become quickened and hurried, the cough frequent and short, the skin hot, and the face flushed, she ought no longer to trust domestic remedies, as it is now evident the disorder has travelled down into the lungs.

If a child has the symptoms of a common cold, but attended by *hoarseness* and *a rough cough*, always look upon it with suspicion, and never neglect seeking medical advice without loss of time. These symptoms are indicative of the possible occurrence of a very formidable affection—croup.

It may be useful to repeat, what has already been alluded to in the article on clothing, that the practice of leaving, in the early years of the child's life, in our changeable climate, the neck, shoulders, and arms quite naked, whilst the rest of the body is warmly clad, is a fruitful source of those inflammatory affections of the

lungs so common and fatal to children. There can be no doubt also that the foundation of future disease of these organs is often laid in this way. The tables of the Registrar-General prove, not only that the amount of deaths from the diseases of the respiratory organs is very great, and much greater than was supposed, but that *children* furnish the majority of the cases.

Sect. 2.—Costiveness.

The principle to act upon in the management of *the infant's* bowels is this, that they should be kept free, and by the mildest and least irritating means.

If, therefore, they become *accidentally* confined (less than two stools in the four-and-twenty hours), and the infant is suckled, the mother may ascertain whether an aperient taken by herself will render her milk of a sufficiently purgative quality to act upon the bowels of her child. This is the mildest mode of all.

If, however, this does not answer, or is not practicable, from the child being fed artificially, then the mildest aperient medicines must be chosen to accomplish this purpose. The kind of medicine to be selected, and the doses in which to be administered, will be found in the section on 'Aperient Medicine,' p. 128.

If, however, the bowels of an infant are disposed to be *habitually* confined, it should be ascertained whether this may not be dependent upon its diet. The same food that agrees perfectly with one child will frequently cause costiveness in another. An intelligent and observing mother will soon discover whether this is the source of mischief, or not. Boiled milk, for instance, will invariably cause confined bowels in some children; the same result will follow sago boiled in beef-tea, with others.

Sometimes children are *constitutionally* costive, that is, the bowels are relieved every third or fourth day, not oftener, and yet perfect health is enjoyed. This occasionally will happen in large families, all the children, though perfectly healthy and robust, being similarly affected. When such is found by a mother to be really the habit of her child, it would be very unwise, because injurious to its health, to attempt by purgatives to obtain more frequent relief. At the same time, it will be prudent and necessary for her to watch that the regular time is not exceeded. This condition seldom occurs to the very young infant.

In childhood, if sound health is enjoyed, the diet judiciously managed and sufficient exercise taken, aperient medicine will seldom be required. Errors in diet, a want of proper attention to the state of the skin, insufficiency of air and exercise—in fine, a neglect of those general principles which have been laid down for the management of health, and upon the observance of which the due and healthy performance of every function of the body depends, are the sources of bowel derangements, and particularly, at this age, of costiveness.

I feel assured, however, that some children are more troubled with costiveness than others, from the simple but important circumstance of their not being early taught the habit of relieving the bowels daily, and at a certain hour. There is a natural tendency to this periodical relief of the system, and it exists at the earliest age. And if the mother only cause this habit to be fairly established in infancy, she will do much towards promoting regularity of her child's bowels throughout life. The recollection of this fact, and the mother's acting upon it, is of the greatest importance to the future health and comfort of her children.

If the bowels are *accidentally* confined at this age, castor oil is certainly the best aperient that can be given; it acts mildly, but efficiently, clearing out the bowels without irritating them. The dose must be regulated by the age, as also by the effect that aperients generally have upon the individual. Great care must in future be taken to avoid the cause or accidental circumstance which produced the irregularity.

When the bowels are *habitually* costive, much care and judgment is necessary for their relief and future management. Fortunately this condition is very rare in youth. The activity and exposure to the air, usual at this period of life, render purgatives unnecessary, unless indeed (as just mentioned), some error in diet, or some unusual circumstance, render the bowels accidentally confined. Should, however, the foregoing state exist, medicine alone will avail little; there are certain general measures which must also be acted up to, and most strictly, if the end is to be accomplished. They consist, principally, in an observance of great regularity with respect to the time of taking food, its quality, quantity, and due mastication; regular and sufficient exercise, horse exercise being particularly serviceable; the shower-bath, or daily ablution; early rising (the indulgence in the habit of lying in bed always predisposing to constipation); and lastly, the patient habituating himself to evacuate the bowels at a certain hour of the day. After breakfast appears to be the time when the bowels are more disposed to act than at any other part of the day; this is the time, then, that should be chosen. All these points must be sedulously observed, and also the principles laid down in the various chapters upon these subjects, if habitual costiveness is expected to be overcome.

Sect. 3.—Protrusion (Prolapse) of the Bowel.

This complaint naturally gives rise to a good deal of alarm, and the accident is referred to here more for the sake of relieving unnecessary anxiety than to offer curative suggestions. The fact is, it will be always wise, when it takes place for the *first* time, to consult your medical adviser; for although the accident is not a serious one, still under such circumstances medical advice is demanded. There are cases, however, in which it occurs again and again in the same child, where this is hardly necessary. For instance, some children never have an attack of diarrhœa, however slight, but the bowel comes down; and in others, who are very subject to costiveness, whenever the bowels are allowed to become at all confined, the same result takes place whenever they go to stool: in the latter, the complaint owes its origin frequently to a careless nurse allowing such a child to remain for ten minutes or more straining violently on the commode.

The means of prevention are, due regulation of the bowels by the mildest measures, and the avoidance in the general management of the child's health of all causes likely to excite diarrhœa or costiveness. Such children, while young, should be watched by the nurse when at stool, that all straining may be prevented. The child should also, besides its morning bath, have the hips dipped for a moment or two in a cold bath every night upon going to bed.

The mode of returning the bowel.—It must never be allowed to remain down, and the sooner the attempt be made to return it the easier it will be to effect. Lay the child on its back—place a pillow under its

buttocks so as to raise them, and having tenderly washed the protruded part with a soft sponge and tepid water, embrace it with the points of your fingers, and steadily press it upwards, continuing such pressure until the bowel slips in. If at any time you fail, after using a reasonable amount of gentle and persevering effort, send for medical assistance, for, as has been before stated, the bowel must not be allowed to remain down. It is right here to mention that prolapse of the bowel is sometimes due to irritation in the bladder. I have known more than one case in which it was caused by a stone in the bladder. In these cases there is generally difficulty in passing water, and the bowel is forced down by the great straining to pass water. If these two circumstances occur together, it will be necessary to seek medical aid at once.

Sect. 4.—Rupture.

This generally, in the child, occurs at the navel, or near the groin. Curative measures are commonly attended with success, if they are unremittingly employed. It is of vast importance that a cure should be effected during childhood, or the individual will, in after years, suffer a constant discomfort—be disqualified for many kinds of exertion, and may any day be in danger of losing his life. Now the cure mainly depends on the persevering care of those who have charge of the child, and the subject is noticed here, to press this point on the attention of those on whom the responsibility devolves.

Rupture of the navel is by far the most frequent form. It is generally first observed about two months after birth. The navel should have closed, but it has

not, and a portion of bowel protrudes through the opening, and, covered by the skin and integuments, forms the hernia or swelling, which will vary in size from a hazelnut to a walnut, always, however, increasing in size when the child strains either by coughing or otherwise. The object in the cure is to *keep the bowel permanently within the abdomen*, so as to give nature an opportunity of closing the opening. The mechanical means selected for this purpose by the surgeon will differ according to his own experience; but whatever means are adopted, the treatment will have in view this one simple but all-important object, and will utterly fail unless continual vigilance is exercised by the nurse to carry out this intention. Not only must she be certain that the mechanical means are always in place, but when removed for the purposes of bathing and cleansing the child, that during this process the bowel is not allowed to come through the opening—to guard against which she must place her own finger over it until the bandages are re-applied. All this requires the exercise of constant watchfulness; but perseverance will be successful.

If the navel protrude, and especially if the protrusion seem to increase, it will be necessary to apply either a small round pad, or better still, take a sixpence (or a farthing), and cover it with two thicknesses of soft wash-leather; place it over the navel, and firmly fix it with strips of sticking-plaister, and then adjust a 'binder' round the abdomen; let it be worn for two or three months, when the defect will generally be found remedied.

Of Rupture in the Groin.—This is not to be trifled with. Directly you perceive a swelling in this region, which 'comes and goes,' but which is especially pro-

minent whenever the child cries or strains, consult your doctor: he will advise you to have a truss for the child at once. Such advances have recently been made in surgical mechanics, that no difficulty will be experienced in procuring a suitable truss even for an infant only a few weeks old. With ordinary care, there should be neither irritation nor chafing of the skin. To avoid this, it is well to have two trusses, so that whenever one has got soiled or wet, you have always a second one to supply its place. Let the child's body be sponged with clean water, then carefully dried; and just before putting on the truss dust the body freely with nursery powder.

In either form of rupture, should the child, at any time before its cure, be evidently suffering from pain traceable to the complaint, it is important to recollect that the surgeon should immediately be sent for, to see and examine the child.

Sect. 5.—Worms.

Almost all diseases have been, at one time or other, attributed to the presence of worms in the intestines. And at the present day it is not at all an uncommon occurrence for medical men to be called in to prescribe for children to whom the strongest purgative quack medicines have been previously exhibited by parents, for the removal of symptoms which, upon investigation, are found in no way connected with or produced by worms. The results of such errors are always, more or less, mischievous, and sometimes of so serious a nature as to lay the foundation of disease which ultimately proves fatal. This observation, moreover, it behoves a mother carefully to regard, since the symp-

toms, popularly supposed to indicate the existence of worms, are so deceptive (and none more so than that which is usually so much depended upon—the picking of the nose), that it may be positively asserted to be impossible for an unprofessional person to form a correct and sound opinion in any of these cases.

It was at one time imagined, and the idea is still popularly current, that worms were the occasion of a troublesome and lingering species of fever, which was therefore designated worm-fever. This notion is now entirely exploded: for if worms be present under such circumstances, it is a mere accidental complication; the fever referred to being generally of a remitting character, and neither caused by or causing the generation of worms. The symptoms of this fever, however, have led and continue to lead very many astray. This is not surprising, since they so closely resemble those which characterise the presence of worms, that an unprofessional person is almost sure to be misled by them. Amongst other symptoms, there is the picking of the nose and lips, offensive breath, occasional vomiting, deranged bowels, pain in the head and belly, with a tumid and swollen condition of the latter, a short dry cough, and wasting of the flesh—symptoms continually attendant upon the disorder now under consideration. These cases have hitherto been perpetually looked upon by mothers as worm-cases, and after having been treated by them as such, by the use of the popular worm-powders of the day, have, as perpetually, presented themselves to the physician grievously aggravated by such injudicious treatment. It is folly, at any time, for an unprofessional person to prescribe for a case where worms are actually known to exist: surely where there is any doubt upon the latter point it must be a greater folly still.

The infant at the breast is seldom, if ever, the subject of this disorder, whilst an artificial diet, or bringing up by hand, predisposes to it. Worms most frequently occur, however, during childhood; much more so at this epoch than in adult age. They do not invariably occasion indisposition, for they are now and then passed without pain or distress by children who are in the enjoyment of perfect health, and in whom previously there was not the slightest suspicion of their existence. The idea, formerly so prevalent, of their being attended with danger, is without foundation; for, unless the case be mismanaged, they rarely give rise to serious consequences.

How produced, and how best prevented.—The causes of worms it is not very easy to explain; at the same time it is very certain that some known circumstances favour their production. If the general health of a child be enfeebled, particularly if the child be strumous, such a condition will favour the generation of these parasites. The protracted use of unwholesome and innutritious articles of food, or a deficient supply of salt (the most necessary stimulant to the digestive organs), or other condiments, predisposes to worms. This observation is strikingly illustrated by an occurrence which formerly took place in Holland, where an ancient law existed forbidding salt in the bread of certain criminals; they were in consequence horribly infested with worms, and quickly died. Sugar, too, whilst a necessary condiment to the food of children, if given in the form of sweetmeats, and their indulgence long persisted in, may so enfeeble the organs of digestion as to cause worms. And, lastly (though many other causes might be referred to), the injudicious means occasionally employed to effect the removal of these

parasites, by the debility produced in the intestinal canal, favours not only their reappearance but their increase.

These, then, are so many causes which may occasion worms in the child. A mother, therefore, should at all times be careful in the regulation of the diet and general management of her child's habits and health, even if no stronger obligations existed than the dread of this disorder; and she must be more than ordinarily viligant on this head, when the slightest disposition to such disorders is manifested. Again: she must not forget that the symptoms so commonly ascribed as characteristic of worms are much more frequently caused by other diseases; that at no time, therefore, is she justified in giving worm-powders, or strong doses of medicine, for such symptoms; for if they do exist, their use is always attended with risk, and if they do not, the debility which they occasion in the stomach and bowels may itself tend to produce them.

The only reliable evidence as to the presence of worms is seeing them in the motions. There are three kinds: the tape-worm—so called from its resemblance to small pieces of flat white tape; the round worm—like the earth-worm; and the thread-worm—like so many short pieces of sewing thread. Tape-worm is very uncommon; the round worms are common enough (a dose of castor oil is frequently all that is required); thread-worms, however, are the most frequent: their habitat is in the lower bowel, and the best and most effectual remedy is an injection of warm salt water—this will infallibly remove them: the injections may be repeated daily for three or four days until no more worms are detected in the motions. As worms frequently indicate a debilitated state of the system, a

tonic, or a little steel wine, will generally be found beneficial.

Sect. 6.—Thrush.

This is one of the most common diseases of infancy. It is an eruption of minute pustules, usually appearing first on the inner surface of the angle of the lips, and about the tip of the tongue, in the form of white specks, spreading more or less rapidly, until, in some instances, a continuous white crust is formed over the whole surface of the tongue, mouth, and back parts of the throat. In general, however, the eruption is not so generally diffused, and is seen only on the tongue and central parts of the inside of the cheeks. If the case be mild, no particular uneasiness will arise from the eruption; but when it is extensive, there will be more or less suffering and disorder of the system. It is popularly believed that the eruption passes through the whole alimentary canal, and the excoriation which sometimes exists about the extremity of the bowel is taken for proof of this, which is no doubt correct. The duration of the disease is uncertain. If the case be slight, the eruption will disappear in a few days, and there will be no material indisposition—if severe, it will continue many weeks, and then seldom fails seriously to affect the health.

There are many causes which tend to induce this disorder, particularly in delicate and feeble children, who scarcely ever escape it. Anything that occasions disorder of the stomach and bowels—unwholesome nourishment, whether the breast-milk or artificial food—over-feeding—breathing impure air in crowded and ill-ventilated apartments (and hence its frequent occurrence formerly in foundling hospitals)—these and various other causes will give rise to it.

In those mild cases where the assistance of the medical man is not sought, a tea-spoonful, two or three times a day, of the rhubarb and magnesia mixture (p. 133), until the bowels are freely opened, but not purged, is advisable. Of local applications to the mouth, borax is most useful. It may be applied in the form of a dry powder and dusted upon the sores every three or four hours (two grains mixed with four or five grains of very finely pulverised loaf-sugar), or in solution, dissolving thirty grains of the borax in an ounce and a half of water, together with a little glycerine, and applying it by means of a soft sponge or rag tied to a piece of stick. The precipitated chalk powder may also be resorted to for the foregoing purpose: it affords great comfort by neutralising the acid secretions in the mouth. It may be applied in the same manner as the dried borax—and if swallowed it will be rather useful than otherwise.

Care should always be taken not to rub off the crusts that form, which is sometimes done by a clumsy nurse; it gives much pain to the child and causes mischief. If the anus becomes much inflamed and excoriated by the discharges, the parts must be kept most vigilantly clean, and be frequently washed with tepid milk and water, be then carefully dried, and afterwards freely dusted with the following dusting powder. Take of oxide of zinc (Hubbock's) 1 part, powdered starch 3 parts—let them be thoroughly rubbed together; this will form an excellent nursery powder, which cannot be used too freely. If at any time the inflammation and soreness be very severe, especially too if the child seem to have any obstruction or snuffling in the nose, call in your medical attendant without delay.

Sect. 7.—Nocturnal Incontinence.

This is a very troublesome affection of childhood, which is frequently prolonged month after month for want of due vigilance, and perhaps knowledge, on the part of those, who have charge of the child. It generally commences during teething. In the first instance, it depends, for the most part, upon an unhealthy state of urine, irritating in its qualities, and not unfrequently depositing a red sand or gravel; but afterwards, the original cause being removed, it is kept up by the mere force of habit, particularly the custom of lying on the back, which has considerable effect in exciting this affection. In some children, in whom the original cause has been long removed, the incontinence seems occasionally to recur from this circumstance alone.

When this complaint first shows itself, accompanied or not by an unhealthy state of the urine—of which fact, except gravel be present, parents cannot judge—the medical man ought to be consulted. In all cases, however, medicine will be of little avail without a very strict attention to general measures. The diet must be as simple and wholesome as possible, suited to the age; all indigestible articles, and sours or sweets in the form of pastry, must be prohibited; the beverage, of course, at this age, will be water, and this must be of the softest. No fluid must be allowed for three hours before bed-time, at which period the bladder must be emptied; and the child must be roused up every three hours during the night for the same purpose—or, as the habit of discharging the urine with some is periodical, returning always at the same hour,

he must be taken up an hour before that arrives at which he has been accustomed to wet the bed. Sleeping on the back must be prevented as much as possible, and some contrivance adopted to secure this object. Such measures will generally suffice in simple cases; but it must be borne in mind that this weakness is often symptomatic of some other disease: thus it may be due to the irritation of worms, or to enlargement of the tonsils; it is sometimes one of the earliest symptoms of disease of the hip-joint. At other times it may depend on over-fatigue, the child sleeping so soundly as not to be conscious of the calls of nature; then, again, the child may be aware of his wants, but too frightened to get out of bed to satisfy them. In all these cases the treatment must be regulated by the cause; remove this, and the disease will right itself. I must caution mothers against one plan of treatment, which, though frequently tried, is never effectual—that is, *against punishing the child*; in nine cases out of ten, the child is not to blame. It is a weakness, a disease, over which the child has as little control as over an attack of measles or scarlet-fever.

The hip-bath, or the salt-water bath to the loins, will be found useful. Sea-bathing will be better still if it can be obtained. The child should sleep on a piece of Mackintosh sheeting, covered with calico or flannel, to prevent the bed from becoming soiled.

Sect. 8.—Skin Diseases.

Red-Gum.—This seldom occurs after the sixth week of infancy, and can hardly be called a disease. It consists of pimples of a vivid red colour, appearing most commonly on the cheeks, forearms, and back of

the hands, and interspersed with diffused red patches. It is brighter and more raised, but not unlike the rash of measles. It is generally connected with some acidity of the stomach and disorder of the bowels, but is seldom attended with general indisposition. Medical interference is scarcely ever thought necessary; at the same time, if the eruption be suddenly driven in, as by exposure to cold, serious results might follow.

The management of the child consists in the daily use of the warm-bath, which will promote the healthy action of the skin, and tend to allay the irritation of the stomach and bowels; and the exhibition for a few days every night, or every night and morning, of a tea-spoonful of the rhubarb and magnesia mixture (p. 133).

Tooth-Rash.—This is in all respects similar to red-gum: it only differs as to cause and age at which it occurs. It is evidently connected with teething. When it appears as early as the fourth or fifth month, it consists of an eruption of pimples seated chiefly on the cheeks and forehead, small, crowded together, and less vivid in their colour than the red-gum; but a few months later it will be found in large irregular patches on the outside of the hands, arms, and shoulders, and sometimes even on the legs. It usually continues twelve or fourteen days, when it begins to fade, and gradually disappears. In the majority of instances no constitutional disturbance or particular inconvenience attends this affection, if we except the irritation caused by the eruption, which is sometimes very troublesome, particularly at night. Everything, therefore, capable of adding to it, such as the wearing of flannel or muslin next the skin, is to be avoided. The parts may also be frequently washed with tepid milk and water, or

the decoction of poppy heads, or with lead lotion, and afterwards dusted with fine starch powder. The bowels should be gently acted upon with the rhubarb and magnesia mixture, and if the gums are swollen and inflamed from the pressure of a tooth, they should be freely lanced.

Sore Ears.—Every mother is acquainted with the sore ears of teething, and she is told that it is dangerous to heal them. In this way not unfrequently a slight excoriation, from fear of interference or mismanagement, becomes a deep and troublesome ulcer, very difficult of cure. A copious and most offensive discharge will ensue, of such irritating quality as to excoriate the parts it comes in contact with. A deep ulcerous fissure may form in the cleft, or groove, behind the ear; the whole ear become inflamed and swollen, and dreadfully painful to the child. It is most true, that to dry up or suddenly heal these sores during active dentition might be productive of most serious consequences, and no prudent physician would advise such a course; but they are not therefore to be neglected and allowed to degenerate into the condition above described.

Always keep the excoriated surface as clean as possible, by washing it frequently with tepid milk and water; this will prevent the discharge becoming acrid and offensive, which would not only increase the pain, but irritate and inflame the ear, and cause the excoriation to ulcerate. If at any time this condition arise, or indeed if this is not the case, but much irritation and itching are present, fomentations of the warm decoction of poppy heads every four or five hours, followed by large and soft bread-and-water poultices, should be resorted to, and be continued till these

symptoms are relieved. Then, however, it must be at once left off, or it will itself occasion little pustules around the margin of the sores, and thus increase their size. The bowels must be gently acted upon, and the diet carefully regulated. If the child wear a cap, it must be left off, as it increases the heat of the parts, and is also liable to stick to them. If necessary, the hands must be muffled to prevent the scratching of the sores; and when put to sleep at night, the child should be kept from lying upon, and thus heating, the sore ear, as much as possible. The same condition of ear will sometimes take place before the teeth can possibly be the cause; this is most likely to occur in fat and lusty children.

Eczema ('Scalled head'—'Milky-scale').—This eruption may occur at any age. 'It begins frequently at the age of three or four months, about the time at which vaccination is performed in this country. It is from this circumstance often ascribed by the mother and others to vaccination; but on inquiry it will often be found that the eczema began before the operation was performed, or that other members of the family have suffered from eczema before they were vaccinated.'[1] This disease usually commences as an erythematous (reddened) condition of the skin, with heat and tingling; this is quickly followed by the formation of small vesicles ('watery heads'), more or less distinct; their contents then dry up, and so give rise to the yellowish-green scabs, with which most mothers are familiar. As the irritation spreads, so these scabs become thicker and thicker, and may extend over the entire scalp, and even over the greater part of the

[1] Dr. Hillier, *Diseases of Children*, p. 360.

body. They give rise to an insupportable itching and burning, which, if not speedily checked, will undermine the health of the child.

I need not say that there are all degrees of this disease—from a few spots behind the ears, or on the top of the scalp, or on one or both arms, to an affection of the entire body; and I would also add that there are varying degrees of severity as well as of extent. The duration of the disease is very variable: in some instances it disappears in a few weeks, sometimes it lasts as many months, and occasionally it is quite impossible to cure it at all. Although it is very unsightly while it lasts, it may be a comfort to know that it never leaves any permanent disfigurement behind.

Treatment.—I shall only give a few general instructions as to how the treatment should be carried out: it will be for the medical man to say what treatment is best adapted for special cases. If there be much scab, it can best be got rid of by a warm poultice, applied when the child goes to bed at night, to be followed next morning by a warm bath in which a handful of oatmeal has been mixed: by carefully washing the scabs for a little while, they will become soft and loose, and can then be picked off without causing any pain or irritation whatever. I will only add, that until the scabs are thoroughly removed, it is impossible to commence treatment. If ointment is applied to a scab, it will only help to thicken it; it cannot possibly have any healing effect on the sore beneath; unfortunately the crusts quickly re-form, unless washed off daily in the manner above described. In addition to local measures, cod-liver oil or steel wine, together or separately, must be administered twice a

day. If the weather is cold, the child had better be kept indoors—but otherwise outdoor exercise will be beneficial. Cold cream is, perhaps, one of the best applications that can be used, and may always be tried until medical advice can be got.

As the discharge from this skin disease, if applied to an abraded surface, is contagious, care should be had to separate as much as possible any child who is suffering from it; at all events the child should occupy a separate bed for the time being.

Nettle-Rash.—This affection is not infrequent in young children, particularly during teething: and although very unimportant, it sometimes appears so suddenly and extensively as to occasion considerable alarm to the mother. The child is put to sleep perfectly well, and after a time awakes very restless and perhaps screaming. Upon examination its body and limbs are found covered with raised patches or wheals of irregular shape and pale colour, resembling those caused by the stinging of nettles, and accompanied with excessive itching. This is most likely to occur in very hot weather, and as it is easily recognised as nettle-rash, all anxiety may at once cease. It is generally connected with acidity of the stomach and derangement of the bowels; sometimes it may be traced directly to some articles of diet, which for the future must be carefully avoided. Of these the most common are crabs, crayfish, mussels, and some other kinds of fish; eggs also sometimes produce it. It is to be corrected by exhibiting the rhubarb and magnesia mixture two or three times a day, in a dose suitable to the age of the child; and to relieve the excessive itching and heat, a tepid bath should be resorted to at once, and daily so long as the eruption lasts, and from

time to time the parts be gently but well rubbed with a handful of flour or fine starch powder. In four-and-twenty or eight-and-forty hours after the full operation of the medicine, the rash in most cases will have disappeared.

Dandruff.—Scurf on the head—dandriff, as it is called, but properly dandruff—is well known in the nursery, and frequently very troublesome. It is characterised by the production of minute white scales in great abundance; attended sometimes with heat and considerable itching and tingling: the scales being thrown off as soon as formed, and reproduced with great rapidity. It is most common in children possessing a delicate skin and fair complexion. If properly attended to when first perceived, it is not difficult of removal. Close attention to cleanliness—thoroughly washing the head night and morning with distilled vinegar—a carefully regulated diet, and a little aperient medicine two or three times repeated, will frequently be sufficient for its cure. And if from time to time there should be a disposition to its return, the same means will generally suffice; but the parent should then see whether there is not some neglect in the general management of the child's health, particularly in reference to the regulation of the bowels and diet, and cleanliness of the head. In severe cases the hair must be removed and medical advice sought.

Another method of getting rid of dandruff in its mild form is adopted by some, and it is a very good one. An egg is beaten up—well rubbed into the hair and at its roots—and afterwards thoroughly washed out with plenty of tepid water;—the head is then dried, and a little almond oil applied. Careful diet is also to be observed.

Ringworm.—The scalp may be the seat of various diseased actions, and they are only alluded to here for the purpose of cautioning parents not to rely on their own powers of discrimination and attempt a cure by domestic remedies, or, worse still, by a resort to quack medicines, lest they aggravate the complaint and prevent the vigorous growth of the hair for the future by injuring the bulbs from which it springs. It requires a practised eye to detect those scalp affections which require precautions against contagion, and to distinguish those kinds which local applications are likely to remove, and then to select such as are both effectual and safe. Some popular remedies are harmless enough, and only produce disappointment.

This disease occurs among the rich as well as the poor; it is infectious, and may spread through the nursery quickly unless recognised early and treated vigorously. The first symptom is a certain amount of itching, then a slight more or less circular eruption will be noticed; the skin will be reddened, and on its surface will be found small silvery scales; the hairs will look dry and bristly, and will break off if any attempt be made to pull them out. Ringworm may also occur on the body; it will be easily recognised on account of its circular shape; if watched from day to day, it may be seen to grow and increase. I advise you to consult your medical man: if accidentally so situated that this is not convenient, perhaps the safest and best remedy to apply is aromatic toilet vinegar, which may be painted on to the places with a small camel's-hair pencil.

Baldness.—A disease which, though much less common in children than ordinary ringworm, is nevertheless sufficiently frequent to induce me to mention it

here. The peculiarity of it is 'that it causes perfectly smooth bald patches, with a more or less circular outline: there is no scaling of the skin, or but very little; no change of colour, unless the skin be a little paler than the rest of the scalp.' The affected parts will generally have a shiny appearance. Now I mention this affection less with a view to indicate any plan of treatment (which must always be trusted to a skilful physician), than to point out that it runs an exceedingly chronic course, and that great perseverance is required in carrying out the treatment, which has to be continued, often, for months together. It is not very, if at all, infectious. Use the usual precautions as to a separate hairbrush, comb, sponge, &c.

Sect. 9.—Inflammation and Abscess in the Ear.

Children are very subject to this, either with or without eruptions about the head and face. It is a most painful affection, and yet often remains undiscovered for some time. The child becomes fretful, extremely restless, looks distressed, is constantly crying in a mournful and most piteous tone, with occasional fits of a more violent character. It leans its head on one side, or moves it from side to side. It will sleep for a few hours, and then awake crying most violently, until, worn out, it again sinks off exhausted, to awake again in the same state. If the tube of the ear is pressed upon, the child will shrink and shriek with the pain, leaving no doubt of the nature of the case, if the previous indications left the matter at all uncertain. It is important that these symptoms should be remembered, as indicative of this complaint. The child may be saved from a great deal

of unnecessary suffering, and after consequences of a serious character, such as deafness, may be prevented, if proper measures are resorted to.

A small blister behind the ear kept on for four or five hours—fomentations over the ear and in front of it, with a few drops of laudanum on lint pressed gently into the tube itself, repeated from time to time—acting briskly on the bowels with a mild purgative—will, if promptly employed, generally arrest the inflammation, prevent the formation of matter, and entirely remove the complaint. If, however, time has been lost from the nature of the case not having been understood, and then only temporising applications resorted to, the inflammation will go on and abscess form. Indeed, this will sometimes occur where everything has been done to prevent it. In this case no decided relief to suffering will be experienced until the abscess burst and matter is discharged, when all pain will suddenly subside, and the child be perfectly easy.

The ear must now be carefully and with very gentle efforts syringed out three or four times a day with warm milk and water. This will be very grateful to the child, and the youngest will generally allow it to be done with the greatest quietness.

Strumous children are sometimes liable to a discharge from the ear, which may come on after an attack of measles or scarlet fever. This is seldom attended with any pain, but occasionally it is rather offensive. In such cases, sea-side air and constitutional treatment—cod-liver oil and steel wine—are the only remedies likely to be of service. In addition, the ears must be carefully syringed with warm alum-water two or three times a day, or with Condy's fluid

and water, or carbolic acid solution (a tea-spoonful to a pint), if the discharge is at all offensive.

Sect. 10.—Deformities.

Deformed Feet.—Almost the first question which the mother asks after delivery is whether the infant is perfect, and great is the distress if any deformity is found to exist. It cannot, therefore, be too extensively known that one of the most common forms in which deformity presents itself at birth, that of the feet, is not incurable. Modern science has proved that, even in the worst cases, much may be effected by art; whilst in the milder cases a cure so nearly perfect may be obtained as to give the limb its ordinary symmetry, and almost natural usefulness. The curative means, however, must be employed *early* in infancy, and, if efficiently carried out, will prevent the necessity for the employment of those more severe measures which, at an after period, are not infrequently demanded.

The remote cause of these deformities has been referred to an original defect in the nerves supplying the limb, in consequence of which there is a want of balance in the development and action of the antagonist muscles. The immediate cause was formerly supposed to be deficiency and alteration of the ankle bones; whereas it consists in this relative disproportion of muscular action, which holds the foot so constantly in one attitude that it becomes its permanent position.

Rickety deformity of the Chest.—It may be useful to make a remark or two in reference to a deformity of the chest which I believe is sometimes

unintentionally much aggravated by those who have the charge of children so affected. It is true that this complaint is not often met with in the children of the wealthy and higher classes, unless indeed one or both parents are persons of enfeebled health; but among the poor it is not infrequent. It consists in both sides of the chest being much flattened or depressed, while the front of the chest and the spine are correspondingly prominent and thrown out. It occurs only in the weakly and delicate child; is sometimes hardly evident at birth, but during, or even before the period of teething, becomes manifest enough.

If the child be born with this affection, and the mother be a delicate and strumous woman, a healthy wet-nurse ought to be obtained, and the wet-nurse suckling in such a case should be continued for twelve or even eighteen months. If, however, this condition of the chest is not marked at birth, but rather observed to develope itself after a few months, if the parent is a healthy woman, I would not have her give up nursing; but in this, as in the former case, more than usual vigilance must be shown in the general management of the child's health. Much may be done to prevent an increase of the mischief, and much for its entire removal.

The chief point, however, to which I wish to draw the parent's notice, is *the mode of handling* such a child, for without care the deformity will be much increased. Ordinarily, in taking up a child, the palms of the hands press upon *the sides* of the chest directly under the arm-pits; now, if this is done to such a child, it will tend inevitably to increase the mischief; to avoid this, therefore, must be in the constant recollection of the nurse. On the other hand, much good

will result from the frequent application for a moment or so of pressure on the front of the chest and spine; this should only be done, however, during expiration, so as not to interfere with the free dilatation of the wall of the chest which takes place during inspiration. To be useful, this suggestion must be steadily followed day by day, and month after month. And as the child grows older, the same intention is still to be carried out by a regular and carefully regulated exercise of the muscles of the arms and trunk. It has been proposed, as the best mode of accomplishing this, to cause the child to raise weights by means of ropes and pulleys placed at a considerable height over its head, so that by taking hold of the rope by both hands raised above the head, and pulling it downwards, the muscles may be brought into action, and the walls of the chest thereby dilated. There will be no difficulty in arranging such an apparatus in the nursery; and the weights must be increased as power in the child's arms increases. During infancy, warm or tepid salt-water bathing will be advisable—the purest air—cod-liver oil and steel wine—and in fact the employment of every means that will tend to strengthen the frame.

Sect. 11.—Bleeding from the Nose.

This is a very frequent occurrence in children, and occasionally very salutary, and may be left to work its own cure. If, however, it is at any time profuse, and attended by headache, consult your medical adviser, and in the meanwhile, in order to arrest the bleeding, place the child in the recumbent posture, apply cold water to the head, or dash iced-water over the face,

or apply ice itself in a cloth over the forehead and nose, and place a piece of cold metal (a large key, for example) down the back; most important is it to keep the child lying perfectly quiet on its back. If the bleeding recur at short intervals, it is a proof that the health is not good, and some appropriate tonic ought to be ordered. A gentle aperient may also be given with advantage.

Sect. 12.—Chilblains.

None are more tormented with chilblains than children; it is one of the nursery plagues, and if you can do anything for their relief, thankful indeed will be the sufferer. The best way of preventing them is to clothe the child's feet and legs (in cold weather) in worsted or angola stockings, and see that he has thick-soled shoes, or what is better, boots. Chilblains depend upon a *languid circulation*, and, therefore, particularly trouble the delicate and weak, and the strong too if the extremities are not properly clothed and due exercise taken.

But the chilblains have come; then rub them morning and evening with turpentine, and afterwards rub the limb itself well with a dry and warm flannel to excite and encourage the circulation. Perhaps the chilblains have broken, and are very tender and inflamed; then put on a bread-and-water poultice, and when the inflammation has subsided, dress them with resin or calamine cerate.

Sect. 13.—Scarlet Fever.

There are several varieties of this disease; it will be more appropriate, however, to our purpose to speak

of it under two forms—*mild scarlet fever*, and *scarlet fever with sore throat*. But I fancy I hear a parent say, Then what is scarlatina? Simply the Latin and scientific name for scarlet fever; and when you have supposed your child has not had the scarlet fever, but *only* scarlatina, you have been labouring under a mistake, *for they are one and the same thing*. This is a very absurd error, and everyone ought to know that it is such; for the mystification which prevails among the public upon this point produces nothing but confusion, and sometimes a disregard of necessary precautions.

In *the mild form* of this disease there is the rash with fever, with little or no affection of the throat. The first *symptoms* are those of fever; they precede the eruption. The degree of fever, however, is variable; for the symptoms are sometimes so moderate as scarcely to attract attention—slight and irregular shivering, nausea, perhaps vomiting, thirst, and heat of skin; whilst, at others, there is considerable constitutional disturbance, indicated by pungent heat of skin, flushing of the face, suffusion of the eyes, pain in the head, great anxiety and restlessness, and occasionally slight delirium. These symptoms are followed on the second day (in the majority of instances) by *the rash*. This first appears in numerous points or minute dots of a vivid red colour on the neck, chest, and face. In about four-and-twenty hours it becomes gradually diffused over the whole trunk. On the following day (the third) it extends to the upper and lower extremities, so that at this period the whole surface of the body is of a bright red colour, hot and dry. The redness, too, is not always confined to the skin, but occasionally tinges the inside of the lips, cheeks, palate,

throat, nostrils, and even the internal surface of the eyelids. Sometimes the efflorescence is continuous and universal; but more generally on the trunk of the body there are intervals of a natural hue between the patches, with papulous dots scattered over them, the colour being most deep on the loins and neighbouring parts, at the flexure of the joints, and upon those parts of the body which are subjected to pressure. It is also generally most vivid in the evening, gradually becoming paler towards morning.

The eruption is at its height on the fourth day; it begins to decline on the fifth, when the interstices widen, and the florid hue fades; on the sixth, the rash is very indistinct; and on the eighth day it is wholly gone.

The various symptoms with which the eruption is accompanied gradually disappear with the efflorescence; but the tongue still remains morbidly red and clean. The skin now begins to peel off: the amount of peeling depends very much on the severity of the rash: it usually commences about the sixth day, but this is very variable. I ought to say that this is the most infectious stage of the fever, and that the greatest precautions are now necessary. A child cannot therefore be said to be free from the fever until all traces of peeling have disappeared, even although five or six weeks may have elapsed since the illness commenced. The soles of the feet and the palms of the hands peel last. At the Hospital for Sick Children, in Great Ormond Street, all children with scarlet fever are kept in bed for three weeks, even in mild cases: this is done with a view to lessen the chances of dropsy, a consequence of the disease, which is almost worse than the fever itself. I shall have more to say on this

point farther on. Desquamation is sometimes very abundant, so much so that the bed is literally covered with the bran-like scales. In all cases let this cast-off skin be carefully shaken into the fire, as it is very infectious.

In *scarlet fever with sore throat*, as the title implies, the fever and rash are accompanied with inflammation of the throat. The symptoms are more severe than in the mild form of the disease, and in the majority of instances the inflammation of the throat appears with the eruption, and goes through its progress of increase and decline with the cutaneous eruption. Sometimes, however, it precedes the fever; whilst at others it does not appear until the rash is at its height.

It is generally in the course of the second day that the child complains of considerable stiffness in the muscles of the neck, extending to the lower jaw, and under the ears; of a roughness of the throat, and difficulty in swallowing; and some degree of hoarseness will be noticed: all so many indications that the throat is affected. Very shortly an increased secretion of the mucus of these parts occurs, and, collecting about the tonsils, aggravates the child's sufferings, from the frequent and ineffectual efforts made to expel it. If the inflammatory action be more severe, exudations of lymph will also be poured out, and, intermingling with the mucus, greatly augment the difficulty of swallowing. At this time the lining membrane of the mouth, as also the tongue, assume a florid red colour; the red points of the latter becoming much elongated.

The febrile symptoms are severe from the first: amongst others there will be headache, sometimes ac-

companied by slight delirium, nausea, intense heat of skin, languor, and considerable inquietude and anxiety; and as the inflammation approaches its height, the fever increases, the pulse rises, the breathing becomes oppressed, the skin more pungently hot and dry, and the thirst urgent: all these symptoms being increased towards evening, when the febrile restlessness is often succeeded by delirium.

The rash is seldom perceptible before the third day, and then comes out in irregular patches on various parts of the body, particularly about the elbows and wrists; thus differing, as to the time and mode of its appearance, from the mild form of the disease. It frequently recedes, or entirely vanishes, the day after it first comes out, and then reappears partially, and at uncertain times. This generally protracts the duration of the disorder, without, however, producing any perceptible change in the other symptoms. On the fifth or sixth day of the disease, the fever and inflammation of the throat begin to abate; at the same time the rash declines, and the peeling off of the cuticle soon follows.

This is the ordinary course of scarlet fever with sore throat; but in many cases the symptoms run still higher, and the disease is alarmingly dangerous from its commencement. In some instances there is an acrid discharge from the nostrils and ears, often accompanied with deafness; as also enlargements of the glands in the neck, followed by the formation of abscesses in their immediate neighbourhood. It is unnecessary, however, to follow out the symptoms of scarlet fever more fully; as all that has been attempted here has been so to sketch out the more prominent symptoms of this disease, that the directions concerning the maternal

management may be readily comprehended: they will be very brief, but a strict attention thereto will be found all-important to the well-doing and comfort of the child.

Character of Scarlet Fever compared with that of Measles.—It will be seldom difficult to distinguish this disease from other acute eruptive disorders. The one to which it bears the greatest resemblance is the measles; but from this it is readily distinguished by the absence of the cough, the inflamed and watery eye, running at the nose and sneezing, which are the predominant symptoms in the early stage of the measles, but which do not usually attend on scarlet fever—at least in any high degree. 'Their period, too, of incubation is different: that of scarlatina not exceeding a week, that of measles extending to two. Their premonitory symptoms are very dissimilar—those of measles closely resembling the sign of a severe cold; while the attack of scarlatina is announced by sickness, succeeded by intense heat of skin, by sore throat, great sensorial disturbance, and extreme rapidity of pulse. There is no disease of childhood, indeed, in which the two last-named symptoms supervene so speedily after the commencement of illness; and their occurrence will often enable you, even before the appearance of the rash or any complaint of sore throat, to form a correct conclusion with reference to the nature of the affection.'[1] The rash, too, in measles, does not appear till two or three days later than that of scarlet fever. It also differs in its characters. *In scarlet fever*, the eruption consists of innumerable minute dots or points, diffused in patches with uneven edges of various sizes and forms; and gives to

[1] Dr. West, *Diseases of Children*, sixth edition, 1874.

those portions of the skin on which it appears a diffused bright red colour. *In measles*, the rash comes out in irregular semi-lunar or crescent-shaped blotches distinctly elevated; the spots being of a deeper red in the centre than in the circumference, and leaving intervening spaces in which the skin retains its natural pale colour.

Management of Scarlet Fever.

However mild the symptoms of this disease may be at the commencement, a careful and vigilant watchfulness is necessary, lest inflammation of some internal organ suddenly arise (generally indicated by symptoms sufficiently obvious), and thus change an apparently mild form of this disease into one of an alarming character.

A doctor must be called in at once, and his directions must naturally be carried out most carefully. For the benefit, however, of any who are beyond the reach of a doctor, I append some rules and instructions; and would advise immediate attention to them in case of an outbreak of this disease. Let the room which is fixed on be emptied of all needless furniture; let all curtains, the carpet of the room itself, and of the stairs leading to it, be taken away: and as a barrier to the infection let a large white sheet be nailed up over the door, in such a way that on raising the corner of it, access is easily obtained to the room: the sheet is to be kept wetted with carbolic acid solution (one part of acid to twenty of water), or with diluted Condy's fluid.

A small fire should be kept up night and day: it ventilates the room; it allows of the window being opened several times a day for the sake of the fresh

air : it serves for hotting up beef-tea or milk, and finally, it is cheerful for the attendant as well as for the patient.

A good nurse should be obtained : the nurse should never be allowed in any other room than the sick-room, and she ought to change her dress each time she goes out.

A vessel containing carbolic acid solution should be kept in the room, and all soiled linen wetted with this disinfectant before being sent downstairs to be washed.

The motions and urine ought always to be passed into a vessel containing some disinfectant, and the closet into which they are emptied should likewise be disinfected after each time of using.

Any towels, cups, glasses, or spoons, &c., used by the patient ought to be immediately washed : no one else than the patient should use them ; and when the illness is past, let them all be scrupulously cleaned before being taken again for general use.

Regimen.—Cooling drinks, as plain water, toast and water, barley water flavoured with lemon peel, fresh whey, lemonade, with or without ice, and thin gruel, beef-tea, or broth, may all be resorted to in their turn. Oranges, grapes, or lemons sweetened with sugar, may also be allowed, particularly when the mouth is foul and dry ; but care must be taken that neither the pulp nor the stones are swallowed. These will both refresh and feed the patient as much as is necessary until the decline of the disease. The parent must strictly forbid the attendants in the sick-chamber giving, at this period, any heating or stimulating fluid, as also solid animal food ; and this injunction must be strictly regarded, even in the mildest form of the disease.

Gargles and the inhalation of Warm Water.—When the throat is affected, gargles are sometimes

ordered; but the pain and inconvenience to which their employment gives rise, frequently preclude their use; and children seldom understand how to employ them, even if the state of the throat permitted it. Under these circumstances, the spray producer[1] may be used, or the inhalation of the steam of hot water, or hot vinegar and water, may be substituted, and with decided benefit. Siegel's inhaler, or Harper's steam draught inhaler, are both exceedingly good instruments, and can be procured at any surgical instrument maker's, or of Krohne and Sesemann, 241 Whitechapel Road, E.

When the throat is found by the mother to be early affected, an immediate application to the medical adviser is especially important. For if he be called upon to treat this form of scarlet fever at its very commencement, by judicious treatment the duration and violence of the disease may be both shortened and greatly mitigated.

Cold Sponging.—Whenever the skin is pungently hot and dry, the whole surface of the body should be sponged with cold water, or with vinegar and water, or with tepid water. The heat is by this means rapidly abstracted and the child refreshed; and this may again and again be resorted to, as the heat again returns. Dr. Bateman observes that by this application alone, 'the pulse has been diminished in frequency, the thirst has abated, the tongue has become moist, a general free perspiration has broken forth, the skin has become soft and cool, and the eyes have brightened; and these indications of relief have been speedily followed by a calm and refreshing sleep. In all these respects, the condition of the patient presented a complete contrast to that which preceded the cold washing;

[1] Vide *Hints to Mothers*, page 12.

and his languor was exchanged for a considerable share of vigour. The morbid heat, it is true, when thus removed, is liable to return, and with it the distressing symptoms; but a repetition of the remedy is followed by the same beneficial effects as at first.'

Speaking of this, Dr. West writes: 'For the past several years, I have been accustomed to substitute for tepid sponging the inunction of suet into the whole surface twice a day: and my experience leads me very strongly to recommend the adoption of this practice. It seems to relieve the sense of burning heat, so distressing to the patient, more effectually than tepid or cold sponging, however often repeated; while it has the further advantage of not requiring repetition above twice in the twenty-four hours; by which the patient is spared much otherwise unavoidable fatigue. . . . I believe it promotes the patient's comfort, and lessens the risk of some of the ordinary sequelæ of the disease.' This inunction is best accomplished if the suet be previously melted and mixed with a little milk or cream: it should be applied warm, and care must be exercised that the patient be not too long exposed; it is better to rub portions of the body, rather than to attempt the whole at once; in this way there is less fear of taking cold.

Convalescence.—When the child is convalescent, mild nourishment will be required, such as arrowroot, tapioca, chicken or mutton broth, beef-tea, jellies, and roasted apples; and, by-and-by, a mutton chop. Wine is seldom necessary, except under circumstances of unusual debility, after a protracted illness, when its moderate use tends much to assist the convalescence; but if given unadvisedly, there will be great hazard of exciting internal inflammatory disease.

Relapses are sometimes caused by the child getting about too soon, and by indulgence of the appetite, particularly for food: a proper degree of restraint, therefore, must be placed upon the child by the parent, who cannot too strictly carry out the directions of the medical attendant as to the diet and regimen during this period. Great attention must still be paid to the state of the bowels, and, indeed, to all the secretions and excretions.

Complications.—I cannot close my remarks on this subject without drawing attention to a frequent *sequela* or complication of scarlet fever—I refer to dropsy. It depends on the want of proper care during the period of convalescence rather than on the severity of the primary fever. And as a rule, I find that *mild cases* are often made light of and treated less carefully, simply because they *are* mild: this is the great source of scarlatinal dropsy. *Even when scarlet fever has been of the mildest form, a parent cannot observe too much care and attention during the period of convalescence.* As before said (p. 279), at the Children's Hospital all children are kept in bed for three weeks, *however mild the attack of fever* may be. I will now add that during the time I was Resident Medical Officer, I never once saw dropsy supervene in a case which had been so treated.

Now as to the earliest symptoms of this disease, I cannot do better than quote from Dr. West's admirable Lectures: '. . . the child, who has passed through the fever perhaps with less than the average amount of suffering, and who for a day or two had seemed rapidly advancing to convalescence, begins to droop, grows languid, feverish, and restless. The skin becomes hot and dry; the process of desquamation (peeling) is

arrested while incomplete; the appetite is lost, though the thirst is often considerable; the bowels become constipated and *the urine diminished in quantity.* After these signs of interrupted convalescence have continued for two or three days or even longer, the face becomes slightly swollen, a puffiness appearing about the eyelids in the morning, which probably disappears later in the day; so that in many instances the attention of the parents is not particularly directed to the child's condition until œdema (swelling) has extended to the hands and feet.'

Another, though less frequent complication, is pleurisy, going on to the formation of matter within the chest. This may be suspected, if there be any local pain in the chest, together with shortness of breath. It occurs either with or without dropsy.

Throat affections may also supervene during the convalescence from scarlet fever. In all these cases it is highly important that medical assistance be obtained as quickly as possible.

General Cautions.—The contagious character of this disease *requires the immediate separation of the invalid from the rest of the family*, and when it is practicable the other children should be removed from home. This measure is always advisable, whether the disease be severe in its character or not; for if it become rife in a family, it will frequently affect the individuals composing it very differently. Some escape altogether; others have the mild form of the complaint, others the severe; and, again, the attendant in the sick-room may be attacked with the sore throat and fever only, both of which may subside without any appearance of a rash; so that the fact of the first case being mild is no guarantee that those that follow will be so.

Great caution must also be exercised, after the convalescence of the patient, that the other children are not brought into contact with him too soon: for infection may be thus produced, though several weeks may have elapsed from the period of the peeling off of the skin. It is right also that it should be known that the contagion lurks about the apartment, and clings to the furniture and clothes of the invalid for a very long time.

When a child has recently had scarlet fever, the parents ought to be very cautious that he is not sent back to school for at least six weeks. Thoughtlessly to do this would be unpardonable, and knowingly to run any risk of carrying infection amongst a large number of children a direct violation of what is right and just to others. If a child is threatened with this disease *at* school, he ought *immediately* to be removed to an airy lodging in the neighbourhood. It is impossible to calculate the amount of evil which this measure, acted upon promptly, may prevent.

I will next say a few words about the unintentional, but not less dangerous spread of scarlet fever which arises from thoughtlessness, and sometimes from ignorance. It may surprise some of my readers to know that scarlet fever has been conveyed in a letter from one family to another. Such a case is known to the writer. The mother occupied her leisure moments in writing: while her child, who was recovering from a severe attack of scarlet fever, slept, she wrote to a sister, in whose house some days subsequently the fever broke out. The servants of an infected house ought not to associate with others living in houses where there are children. I have already said that it is very desirable that all the other children should be

at once removed if possible. Travelling in cabs, omnibuses, railways, or other public conveyances is not only dangerous, it is, thanks to the Sanitary Act of 1866, illegal; and anyone going out of an infected house, without having taken due precautions as to disinfection, is liable to be heavily fined.

After a severe attack of scarlet fever it is very usual to advise a stay at the seaside, and in answer to the question which has frequently been put to me, 'How long after the fever is it safe to move a child?—safe both to itself and others?—I would say that a child ought never to be moved to the seaside under six weeks from the commencement of the disease. Then as to the special precautions before leaving the sick-room let the child have a warm bath with carbolic acid in it—sufficient to make it smell of the acid—and let it be received in a clean blanket, and taken into another room straightway, and there be dressed in clothes *that have never been near the sick room*. With these precautions carefully carried out, I think there will be *no danger of carrying any infection* with you.

The Disinfection of Rooms, Houses, &c.—I cannot do better than copy the directions which the late Dr. Lankester compiled and published as 'Sanitary Instructions, No. 2.' A careful attention to these rules is of the utmost importance, not only for your own children but also for the community at large.

'By the Sanitary Act of 1866, a penalty of 5*l.* is inflicted on any person who wilfully or negligently is the means of spreading infectious or contagious diseases among their friends or neighbours.

'It is illegal to use any public cab for the conveyance of a patient to a hospital or anywhere else without telling the driver that it is a case of infectious disease.

'The driver of a cab may refuse to take any such person unless he is paid a sum of money sufficient to defray the expenses of disinfecting his cab.

'Any cabman taking another fare, after conveying an infected person, without previously disinfecting his cab, is liable to a penalty of 5*l*.

'It is illegal for an infected person to go, or for any person to take or send anyone suffering from an infectious disease, to any public place, such as the waiting-room of a hospital or a dispensary, or to a school, or a church or a chapel, or a theatre, or omnibus or other public carriage, so as to endanger any other persons, whether adults or children.

'It is also illegal for any person to give, lend, sell, or move to another place, or expose any bedding, clothing, rags, or other things, which may have become infected, and are liable to convey any contagious diseases to another person, unless such things have been previously disinfected.

'It is also illegal to let any house, room, or part of a house, in which any person has been ill with any infectious disease, until it and all articles in it have been properly disinfected. The same law also applies to public-houses, hotels, and lodging-houses. The penalty for disobedience in these cases is 20*l*.

'When persons have had infectious diseases, whether they get well or die, the room in which they have been ill should be disinfected. The floor should be washed with chloride of lime and water, or carbolic acid and water. The paper should be removed by moistening with carbolic acid and water, or with Condy's fluid and water. The room should then be fumigated by burning sulphur in an iron dish, the fireplace, crevices in windows and doors being closed by putting paper

over them. The room should be exposed to the sulphur vapour for five or six hours. Or, the room may be fumigated in the same way with chlorine vapour, which is procured by pouring oil of vitriol on common salt and oxide of manganese.

'After the room has been fumigated, it should be lime-whited, and the doors and windows kept open for a week or fortnight.'[1]

The period at which the disease shows itself, after the exposure of an individual to sources of contagion, is exceedingly various. One child will be seized within a few hours; another, not for some days; and now and then (though rarely) five or six weeks have intervened between the period of exposure and the manifestation of the disease.

It is believed by many that belladonna exerts a preventive and protective influence upon the body against the contagion of scarlet fever, or, if it should not prevent the disease, it will render it mild. This may or may not be so; but there can be no harm done in giving it, provided the dose ordinarily exhibited by those who have faith in its efficacy is not exceeded, and provided also that its employment does not lead *to the neglect of other precautions.* Dissolve three grains of the extract of belladonna in an ounce of distilled water, and give three drops of this solution twice daily, to a child under twelve months old, and one drop more for every year above that age.

In conclusion: this disease is a complaint of infancy and childhood, rather than of adult age; generally affects the same individual but once during his life;

[1] Copied by the kind permission of the publishers, Messrs. Hardwicke, Piccadilly, being No. 2 of a series of six short but instructive papers, entitled *Sanitary Instructions.*

and, though examples of a second attack have occurred, such a circumstance is extremely rare.

Sect. 14.—Measles.

Though a more universally prevalent disease than scarlet-fever, it is fortunately less dangerous: its average mortality is about 3 per cent., while that of scarlet fever is at least double. It very usually occurs during infancy and childhood, but no age is exempt from it: like scarlet fever, it occurs but once as a rule, but exceptions are by no means so rare as is generally supposed. It is very infectious—much more so than scarlet fever—and it is perhaps for this reason that so few children escape the disease; with ordinary care, however, there is but little danger: and when I state that its most frequent, and at the same time most serious complication, is inflammation of the lungs and air passages, I think almost every mother will intuitively feel what precautions are most likely to ward off this threatened complication.

Description of the Disease.—The child infected will be observed not to be as well as usual, less active, and out of spirits; his appetite will fail, and his sleep be restless and disturbed. It will soon be evident that he has apparently taken a cold in his head, and that this is accompanied by fever. His voice will be hoarse; there will be frequent cough, headache, sneezing, running from the nose and eyes—the eyelids being somewhat swollen, and the eyes inflamed; the skin will be hot and dry, and he will complain of occasional chilliness. In the course of the next two or three days these symptoms will increase in severity, and perhaps be accompanied by oppression at the chest, and

hurried breathing, and towards evening by a slight delirium.

On the fourth day the rash will appear, but the symptoms will be little, if at all, mitigated; indeed, they will sometimes increase in severity. The eruption will first be perceived about the head and face, in the form of small red spots, at first distinct from each other, but soon coalescing, and forming patches of an irregular crescent-like or semi-lunar figure, of a dull red colour, and slightly elevated (giving a sensation of hardness to the finger), while portions of the skin intervening between them will retain their natural appearance. At this time the eruption will also be found on the inside of the mouth and throat, and the hoarseness will consequently increase. On the fifth day the rash usually covers the whole surface of the body, with the exception of the legs and feet; and is now very livid on the face, which is not unfrequently so much swelled, especially the eyelids, that the eyes are quite closed up, as in small-pox. On the sixth day it is fully out on the extremities, and is beginning to fade on the face. On the eighth it is fading from all parts; on the ninth it is hardly perceptible; and has entirely disappeared on the tenth day from the commencement of the fever, or the sixth from its own first appearance. As the fading proceeds, the spots drop off in the form of little branny scales, which are sometimes, from their minuteness, scarcely perceptible. They leave a slight discolouration on the skin, with considerable itching. Such is the ordinary course of this disease; occasionally, however, deviations are met with.

Character of Measles compared with Scarlet Fever and Small-pox.—Under the description given of Scarlet Fever, are noticed several signs by which

that disease may be distinguished from measles: to these may be added the absence of cough, of water flowing from the eyes, and of redness and swelling of the eyelids, which characterise measles. Again, in measles, the eruption is more pointed, of a crimson instead of a scarlet hue, and does not appear until two days later than in scarlet fever. In small-pox, the fever abates as soon as the eruption makes its appearance. In scarlet fever this is by no means the case; and as little so in measles: the vomiting, indeed, subsides, but the cough, fever, and headache grow more violent; and the difficulty of breathing, weakness of the eyes, and, indeed, all the catarrhal symptoms, remain without any abatement till the eruption has all but completed its course.

Maternal Management.—Measles, in its ordinary and simple form, is a mild, and by no means dangerous, disease: it is sometimes, however, accompanied or immediately followed by symptoms of a very serious character, and which it is to be feared, in many instances, owe their origin to the carelessness of the attendants in the sick chamber. A mother's superintendence, therefore, is much required at this time to ensure a careful attention to the medical directions, as also to those general points of management upon which the well-doing of her child much depends, of which the following are the most important:—

Ventilation of the Bedroom, &c.—The child must be kept in bed from the onset of the attack. He must have so much clothing only as will secure his comfort, avoiding equally too much heat or exposure to cold. To these points the parent's attention must be particularly directed. It is the practice with some nurses, in the belief that a breath of cool air is most pernicious,

to keep the child constantly enveloped in a smothering heap of bed-clothes, with curtains closely drawn, and the room well-heated by fire, by which means the fever and all its concomitant dangers are greatly augmented. It is equally a popular error (and yet by many it is still held and acted upon) to suppose that because in small-pox exposure to cold is useful, that therefore it must be of equal advantage in measles. It cannot be too generally known that the nature of the fevers accompanying the two diseases is widely different, and that the adoption of this error is productive of the most serious consequences; for it would most likely produce in measles inflammation of the lungs, which, in truth, is commonly the result of carelessness upon this point. The bedroom should be large and airy; free from currents of cold, but well ventilated and not hot. The room also may be darkened, on account of the tenderness of the eyes, if more agreeable to the patient; all noise excluded, and mental excitement or irritation carefully avoided.

Regimen.—Little or no food must be allowed; and whatever is taken must be of the simplest kind, and in a liquid form. Mild mucilaginous drinks, and *warm*, may be given liberally; as barley-water, or thin gruel, &c.

Sponging, &c.—The face, chest, arms, and hands should be sponged occasionally with vinegar and *warm* water (one-fourth and three-fourths). This will be productive of great comfort to the little patient; it removes the heat, dryness, and itching of the skin, which are often very distressing; and is especially useful at night in relieving wakefulness. If the cough be troublesome, it will be useful for the child to breathe the steam of warm water over a large basin, with the head

covered with flannel large enough to hang over its edges. By this means the tender and inflamed eyes will at the same time derive advantage from the soothing effect of the vapour.

Cautions.—Whenever the measles is known to be prevalent in a neighbourhood, and a child manifests symptoms of cold in the head and fever, it should at once be a reason for carefulness on the part of the parent. The diet should be light, cooling, and scanty; and the child should be carefully kept in-doors. It has been before remarked, that in its ordinary course measles is a disease unaccompanied with danger, but that the mildest form may be speedily converted into the most dangerous. That is to say, a sudden change may take place in the symptoms, arising out of circumstances which could not have been foreseen, and therefore unavoidable; or may be produced by improper management on the part of the nurse, such as the giving of stimulants, by too much heat, or by exposure to cold. Now it is for the parent early to notice any change which may occur from the first source, and by her watchfulness to guard against the possibility of its arising from either of the second. In reference to the first, if the child should complain, at any period of the disease, of severe headache, with piercing pain through the temples, and if this is accompanied by wandering of mind, great increase of suffusion of the eyes, as also intolerance of light, the immediate attention of the medical man is demanded. So, if towards *the close* of the eruption, that is from the seventh to the ninth day, the breathing should *again* become hurried (this symptom is very generally present during *the height* of the eruption, and is not necessarily connected with disease of the lungs), with pain and oppression felt at

the chest, the cough becoming hacking and incessant, &c., (all symptoms cognisable by the mother, and indicative of inflammation of the lungs), no time must be lost in seeking medical aid. With regard to the last cause (improper management) it may be well, in reference to it, to observe that it sometimes happens that the rash comes out imperfectly, or, having appeared properly, suddenly retrocedes and disappears; in some cases no doubt, this may be fairly ascribed to an accidental or careless exposure to cold, and the constitutional disturbance, which is almost sure to follow, will tell its own tale: under these circumstances, the best thing to do is to put the child into a large warm bath, and let it remain for a quarter of an hour. This proceeding may also be advantageously adopted in cases where an eruption does not come out well, for even if it do not assist it much, it can at all events do no harm. A popular remedy in the country is cowslip or saffron tea, freely administered as a drink: this may certainly be given. I have frequently seen it do good, while I have never known it do harm.

Measles is frequently followed by cough and deranged bowels; and there is always great susceptibility about the child for some time. On this account, he should be carefully screened from a cold or damp atmosphere; the diet should be carefully regulated, and flannel worn next to the skin. If the cough should continue, it must not be neglected on the supposition that it will wear off; for it demands the skilful and careful attention of the medical man. Until his arrival a safe and effectual remedy is a large linseed-meal poultice to the chest and back. A very slight sprinkling of mustard will do no harm in the severer cases.

In conclusion, it may be remarked, that very fre-

quently during infancy and childhood, and particularly during the period of teething, eruptions very similar in appearance to this disease occur; and although in a considerable number of cases it may be a false alarm, still I would advise that every precaution be taken as though it were measles, especially in families where there are other young children who have not had this disease.

Sect. 15.—Small-pox.

This disease, the most dreaded of all eruptive fevers, is not so commonly met with in the present day as formerly; thanks to that Providence which led to Jenner's discovery. But although its occurrence is not so frequent, it still does occasionally present itself; when it will assume either a mild or severe form. If it attack a child that has not previously been vaccinated, it is called natural small-pox, and the chances are that the disorder will be severe in character: if, on the other hand, it occur in the vaccinated, the disease will generally be much modified in its symptoms; the attack will be mild, and without danger.

In natural small-pox, the affection having been received into the system of a child that has not been vaccinated, about fourteen days will transpire before the commencement of the febrile symptoms or eruptive fever. A distinct rigor or shivering fit then takes place, accompanied by pain in the back or in the stomach; with sickness, giddiness, or headache; as also great drowsiness. And if an infant be the subject of the disease, a convulsive fit will sometimes take place, or several in succession.

At the end of eight-and-forty hours from the occurrence of the rigor (in the majority of cases), the

eruption comes out, and shows itself first on the face and neck in minute flea-bite spots. In the course of the next four-and-twenty hours in some cases, and in others not until the expiration of two or three days, it completely covers the body; not being confined exclusively to the skin, but frequently extending to the mouth and throat, and even to the external membrane of the eye. In the course of two or three days from their first appearance, the little pimples, increasing in size, will be found to contain a thin transparent fluid, to pit or become depressed in their centre, and the skin in the spaces between them will be found red. On the seventh or eighth day from the commencement of the fever, the fluid contained in the pimples will be no longer transparent, but opaque; and they will consequently appear white, or of a light straw colour. Each pimple or pock will be no longer depressed in its centre, but will become raised and pointed, being more fully distended by the increased quantity of fluid within; and the skin around each pock will now be of a bright crimson. The head, face, hands, and wherever else the eruption shows itself, gradually swell; and the eyelids are often so much distended as to close the eyes and produce temporary blindness. There will always at this time be some degree of fever present, and its amount will vary with the circumstances of each individual case. The skin, too, will be very tender, so much so sometimes as greatly to harass and distress the child. On the eleventh day the swelling and inflammation of the skin of the body and face subside; the pimples upon these parts dry up and form scabs, which fall off about the fourteenth or fifteenth day. Those on the hands, as they come out later, commonly continue a short time longer. The eruption leaves

behind, in some cases, the peculiar marks of the disease; and in others merely discoloured spots, which disappear in the course of a short time.

The natural small-pox is sometimes much more severe in its character than the foregoing, and what is called *confluent* small-pox is said to exist. This form will be marked by great constitutional disturbance, and the eruption coming out earlier than in the milder form; instead of being distinct, that is, each pimple standing distinct and separate one from the other, they will coalesce, and appear flat and doughy, not prominent; they will more particularly run into each other on the face, where they will form one continuous bag, which, soon becoming a sore, will discharge copiously.

In small-pox in the vaccinated, the disease, in almost every instance, is much altered or modified in its character. Indeed, in children, in whom of course vaccination has been but lately performed, small-pox, when it occurs, will, in the majority of cases, be so mild, that the real nature of the disease will be with difficulty determined: so mild, that again and again has a parent been heard to exclaim, 'Surely these few scattered pimples cannot be the small-pox!' If, however, as the pimples progress, they are narrowly watched, and are seen to become depressed in their centre; if there has been the precursory rigor, &c.; and if the source of the disorder can be traced to some case of undoubted small-pox, the child in fact having been exposed to contagion; no doubt ought to exist in reference to the nature of such a case, however slight may be the character of the disease.

The usual progress, however, of small-pox modified by vaccination is as follows. The first stage is the

same usually as in the natural form of the disease. As soon, however, as the eruption appears, the modifying power of the vaccination becomes apparent. The eruption will be found to be generally both less in quantity and more limited in its extent; or if even it should come out profusely, and cover a large extent of the surface of the body, still the controlling power of the vaccination will immediately show itself after its appearance—first, in the complete subsidence of all the febrile symptoms which will now take place; and, secondly, in reference to the eruption, part of which will die away at once, and the remainder will by the fifth day be filled with the opaque yellowish fluid, then dry up, becoming hard and horny, and, falling off, will leave a mottled red appearance of the skin, and now and then slight pitting. Such is the usual progress of the disease: subsequent to vaccination it is a mild and tractable disorder. It is right, however, to mention that small-pox *may* occur even to the vaccinated in almost as severe a form as the confluent natural small-pox, and run its regular course unaltered or unmodified. Such instances, however, are extremely rare, and form the exceptions to the general rule.—*Vide* VACCINATION (p. 158).

Maternal Management.—The grand principle in the treatment of small-pox is to moderate and keep under the fever; and however the plans adopted by different medical men may vary in particular points to accomplish this purpose, they uniformly make this principle their chief aim and object. To carry out this intention, however, the medical adviser is greatly dependent upon the aid and assistance of a judicious parent, and without this it is impossible to hope for a successful issue to the case. A clear knowledge, there-

fore, of those points of general management in which in fact a great part of the above principle consists (few and simple as these directions are), it must be all-important for the mother to be acquainted with : for the rest, she must and ought to look to the medical man.

In the rarer and more severe form of this disease, viz. the confluent small-pox, although in some instances it runs the same course as the milder form, the distinct or natural small-pox, still, usually, the constitutional symptoms are much more aggravated, and the medical and general treatment required will so much depend upon the character of the individual case, that we do not think it well to notice it here.

Bed and bedroom.—It will not be necessary at first for the child to be confined to his bed, but generally about the third or fourth day he will gladly resort to it ; and if he does not, it will be prudent to keep him there. He must not, however, be loaded with bed-clothes, but lightly covered ; and the bed and body linen should be changed daily, if possible. The bedroom should be capacious and well ventilated ; fresh air frequently admitted ; and a window should be constantly open during the day. It is also desirable to keep the chamber darkened in all cases where there is a tendency to inflammation of the eyes. If these directions are not regarded, and great heat of the apartment is permitted, with abundance of bed-clothes heaped upon the child, the hot bath is used, and hot and stimulating regimen given (upon the old and erroneous notion of bringing out the eruption), the mildest case will inevitably be converted into one of the most severe and dangerous. Facts have abundantly shown that such measures invariably prove the most effectual

means of exasperating the disease, and endangering life.

Regimen.—This must be most sparing. Cold water may be given when asked for. Lemonade should form the common drink during the fever; and gruel, barley-water, and roasted apples are all else that is required during this period, and not until the disease is going off must any change be made in the diet. This period having arrived, mildly nutritious food should be given, as chicken or mutton broth, beef-tea, arrowroot, tapioca, or sago; to be followed in a few days by the wing of a chicken or a mutton chop; remembering always, that solid animal food must at first be given cautiously and sparingly. Wine or stimulants must be positively forbidden; unless, indeed, ordered by the medical man, for circumstances may arise which render them advisable. The state of the bowels must be carefully attended to at this time.

The Eruption.—In the natural and mild form of this disorder the pustules generally break from the sixth to the eighth day; dry scabs succeed; and in about nine or ten days the parts heal perfectly, requiring no treatment. In the more aggravated cases, however, in which the pustules are very numerous, running one into the other, and bursting discharge greatly, the whole surface of the body should be frequently and liberally dusted over with dry flour, or, what is better, starch powder. The sores in this instance are always tedious in healing, and followed by the well-known pits or marks; these arise from a loss of substance in the true skin, and occur more particularly on the face, from the great vascularity of this part causing the pustules to be more numerous here than elsewhere. It is a popular error to suppose that

by wearing masks of fine linen or cambric lined with particular ointments, these scars or pits may be prevented: it is impossible to prevent them; and any local application, except a little cold cream, or oil of almonds, applied to the scabs when they harden, will prove more injurious than useful. The child's hands, however, should always be muffled, to prevent its scratching or breaking the sores, for otherwise he will not be kept from thus attempting to allay the excessive itching which they occasion.

The hair should be closely cut at an early period of the disease, and so kept throughout its continuance. This will contribute very much to the comfort of the child, by preventing the hair becoming matted together with the discharge from the pustules when they break, which gives rise to great pain and irritation. In the confluent and worst forms of this disease, it is particularly necessary to attend to this measure, as also to the application of cold lotions to the head when hot and dry (with other remedial means), as there is always a tendency in these cases to the formation of abscesses, the healing of which is troublesome and attended with difficulty.

Cautions, &c.—It has already been stated that *free ventilation* of the bedroom is necessary to the well-doing of the patient. This measure, however, must not be confined to the chamber of the sick, but acted upon through the whole house. In conjunction with ventilation, *fumigations* by means of aromatic substances kept slowly burning should be resorted to. A solution of the chloride of lime, too, a most powerful disinfectant, should be used to purify the different apartments. This is best accomplished by steeping in the solution pieces of linen, and hanging them about

the rooms, as also frequently and freely sprinkling the walls themselves; and as soon as the invalid is removed, the chamber should be whitewashed, the various articles of furniture well scoured with soap and water, and the room well and freely ventilated prior to its being again occupied. Indeed, the same precautions may be adopted as in scarlet fever.

The clothes of the patient and the bed-linen should be frequently removed, and when taken away immediately immersed in boiling water, and whilst hung up in the open air sprinkled occasionally with a weak solution of the chloride of lime. If these directions are not observed, and the clothes are closely wrapped up, they will retain and give out the disease to others, even at a great distance of time. And again, as the contagious property of small-pox hangs about the child as long as any scabs remain (which indeed may be said to retain the poison in its concentrated form), a parent must be most careful that the invalid is not too soon brought in contact with the healthy members of the family. An observance of these precautions is imperatively demanded; they not only protect the healthy, but aid the infected.

Sect. 16.—Chicken-pox.

This disorder is almost confined to infancy and early childhood. The eruption is seldom preceded by any constitutional symptoms, but commences on the shoulders, neck, and breast. It always affects the scalp: the face may escape; while in small-pox, it will be remembered, the face never escapes. It is composed, from the very first, of perfectly transparent vesicles surrounded by a very slight degree of superficial red-

ness; and when very copious, to employ Dr. Gregory's characteristic simile, 'the body has the appearance of having been exposed to a shower of boiling water, each drop of which had occasioned a minute blister.' Crops of vesicles appear in succession for two or three days; and while new ones are forming, the first are beginning to shrivel. The fluid in the vesicles, after the second or third day, becomes slightly opaque, and the vesicles therefore pearl-like. They form small scabs or scales, drying very quickly, and as quickly falling off, leaving here and there superficial marks, which, however, are rarely permanent in after-life. The whole course of the disease seldom exceeds a week, and during its progress there is no constitutional disturbance of any consequence: the tongue continues clean, the pulse of natural frequency, the appetite good, and the rest undisturbed. The maternal management will be the same as in the mildest case of modified small-pox.

It is only necessary to add one or two points, which have been clearly established, and which it will be well for parents to bear in mind. Chicken-pox is a contagious disease, readily communicated from one child to another. It occurs equally in those who have and those who have not been vaccinated. It is a distinct disease from small-pox, springing from a specific poison, and occurs but once in a child's life. It affords no protection against small-pox, while, on the other hand, small-pox affords no protection against it. It will, therefore, be as much the wisdom as the duty of the parent, whenever any eruption occurs in the nursery which is at all equivocal in its character, to use the same precautionary measures for preventing the extension of the disease as if she was sure it was modified small-pox itself.

Sect. 17.—Hooping-Cough.

My chief inducement to notice this disorder arises out of the well-known fact, that there is no complaint of childhood more frequently subjected to quackery and mismanagement than this. Indeed, there are few maladies against which a greater array and variety of means have been recommended than against hooping-cough. I suppose from the circumstance of the simple and mild form of the complaint being so tractable (provided it remain such) that the simplest and mildest measures effect its cure, parents are tempted to undertake its management in the more severe and complicated forms; and the result is but too often the establishment of disease dangerous to life, and sometimes fatal to it. But although most imprudent for a parent to assume the office of physician, her aid is essentially necessary in carrying out the measures prescribed. By her watchfulness and care the duration of the disease may not only be abridged, but, what is of much greater importance, a more serious and aggravated form of disease prevented; for although hooping-cough in itself is not a dangerous disorder, still the most simple and slight case, if neglected or mismanaged, may quickly be converted into one both complicated and dangerous.

Description of the disease.—Hooping-cough commences with the symptoms of a common cold, which is more or less frequent. These symptoms continue from five days to fifteen; at the end of which time the cough changes its character, and assumes the convulsive form which distinguishes the disorder. It occurs in paroxysms varying with the severity of the disease from five or six in the twenty-four hours, to one every

ten or fifteen minutes; being generally more severe and frequent during the night than in the day. During a paroxysm the expirations are made with such violence, and repeated in such quick succession, that the child cannot breathe, and seems in danger of suffocation. The face and neck become swollen and purple from suffusion; and the eyes prominent, injected, and full of tears. The child, with a forewarning of the attack, which it dreads, falls on his knees, or clings closely to anything near him. The paroxysm terminates with one or two long inspirations, attended with that peculiar noise, or 'whoop,' from which the disease has derived its designation. Sometimes the fit of coughing is interrupted for a minute or two, so that a little rest is obtained; and is then succeeded by another fit of coughing and another hoop, until after a succession of these actions the paroxysm terminates by vomiting, or a discharge of mucus from the lungs, or both. The disease having continued at its height for two or three weeks, it begins naturally to decline; the paroxysms become less frequent and violent; the expectoration increases; the cough slowly loses its characteristic hoop, and gradually wears away altogether; until at length, in two or three months from the first onset of the disease, perfect health is restored. Sometimes, however, particularly in the autumn, and at other seasons on the occurrence of easterly winds, the paroxysms of cough will return—it will assume its spasmodic character, and be accompanied with the 'whoop,' after a month, or even two or three months, of apparent perfect recovery. Errors in diet will sometimes alone have a similar effect. It is a disease which usually occurs during childhood, rarely affects the same individual twice, and is seldom seen in the very young infant.

In reference to the probable result of the disease, when it occurs in its mild and simple form in a healthy child, the termination is usually favourable; but it may at first assume this form, and afterwards become complicated, and consequently more or less dangerous, owing to injudicious management, or to various influences over which the mother has no control.

It generally appears as an epidemic, and at those seasons when catarrhal complaints are most prevalent, and affects many or several at the same time. Isolated cases, however, frequently occur. The nursing mother will occasionally take it from the infant at her breast. The child who has caught it from others whilst at school, and is brought home in consequence, will communicate it readily to his brothers and sisters, although the disease did not exist previously in the family or neighbourhood, and was brought from a distant part of the country. All these instances are surely proofs of its infectious character, and point out the necessity of caution whenever hooping-cough may present itself in a family, and the necessity which exists for an early removal of the unaffected children from the sphere of its contagious influence. The infectious property diminishes as the disease declines.

Maternal Management.—In the mild and simple form of this disease the medical treatment is one rather of prevention than cure, and the maternal management consists in assisting, by watchfulness and care, the fulfilment of this design. In these slighter cases little more is required of the mother during *the first stage* of the disorder (that is, before the cough becomes spasmodic) than attention to diet, regimen, and the excretions. The diet should be farinaceous, with milk, or as may be otherwise directed. The air of the apartment must be

maintained at an equable temperature, and the child must be confined to it. It is a popular error to suppose that at this time change of air is beneficial to the disease: at a later period it certainly is, but at first it is injurious, and attended with great risk. Should the weather be cold, the little patient must be warmly clad, and flannel worn next the skin; this latter precaution should always be taken in the winter, spring, and autumn. Purgatives and other medicines will be required, and ordered by the medical attendant: the chief attention, however, of the parent must be directed to any change she may observe in the symptoms, breathing, &c.; she must be all on the alert to notice the first signs of local inflammation. Of this, however, we shall speak presently. During the early part of the *second stage*, that is, when the cough becomes spasmodic, assuming its peculiar sound, the same diet and regimen must be continued, and the same watchfulness observed, lest any inflammatory symptoms manifest themselves.

Under the foregoing treatment the disease generally runs its course without any untoward event, and the child recovers perfectly. Sometimes, however, although the patient is quite well, and the disease on the decline, the cough still continues. In these cases, and at this time, it is that change of air often proves so very serviceable. The seaside is preferable, if the season of the year permit; and salt-water bathing, commencing with the warm or tepid bath, and passing gradually to the cold bath (if no complication forbid it) will also prove certainly and rapidly remedial. Crying, mental irritation, or opposition, frequently bring on a fit; and even the sight of another in a paroxysm will induce it in those affected by the disease. Great attention must be paid to the diet. Some of the worst paroxysms

come on at meal times, especially if solid food have been taken, and no relief is obtained until it has been ejected. The mildest food should be given, and for the most part it should be liquid. Running or other active exercise will generally cause the fits to be more severe. Young children, too, must be carefully watched at night, and be raised up by the nurse as soon as the fit is threatened. These hints the mother should bear in mind. So much for the simple form of the disease, and that in which it most frequently and commonly presents itself to our notice: a mild disease, and, if carefully managed and watched over, certainly not a dangerous one.

Of what, then, is a parent to be afraid, or against what is she to guard? Lest other disease insidiously come on, and advance to an irremediable degree, masked by the cough, without attracting her attention. This is the great source of danger in hooping-cough. The physician, in a case of simple hooping-cough, is not in daily attendance upon his patient, and therefore not present to notice the commencement or first symptoms of those diseases which so frequently occur at this time, and the successful treatment of which will mainly depend upon the early detection, and the decision with which they are treated. When you hear of a child or several children in a family dying of hooping-cough, it is not this disease which proves fatal; but death is caused by some disease of the lungs or brain, which has been superadded to the hooping-cough. The progress of hooping-cough, then, must be closely attended to by the parent, even in the most favourable cases.

The most frequent complication with hooping-cough is *inflammation of the air-tubes* of the lungs. This is extremely frequent during spring and winter, especially in the months of February, March, and April, owing

to the prevalence of easterly winds at this season. It is not my intention to detail the symptoms of this affection, only to point out those which will enable a parent to recognise its approach. A parent then may take warning, and fear the approach of mischief when she observes the fits of coughing become more frequent and more distressing to the child, and the breathing hurried in the intervals of the paroxysm; when any exertion or speaking causes increased difficulty of breathing or panting; when the expectoration becomes less abundant, and difficult to get up; when there is no longer, or at all events less frequent, vomiting after the cough, and more or less febrile symptoms are present. If *the lungs* themselves are attacked by inflammation, most of the symptoms already pointed out will occur: the cough will be frequent in short paroxysms; the vomiting will not take place, the breathing will be very quick and hurried; and as the disease advances the hoop will cease.

If hooping-cough attack a child while teething, or from six months to two or three years of age, the brain is more liable to suffer than any other organ, and *convulsions* and *water on the brain* may occur, particularly if the latter disease prevails in the family. Whenever the paroxysm of cough is increased in violence, the characteristic hoop disappearing, the face becoming very livid; the hands clenched, and the thumbs drawn into the palms; the head hot, and marked fits of drowsiness and languor; and the child, during sleep, screaming out, or grinding its teeth—mischief in the head ought to be feared. Of the treatment we have nothing to say here, except that the gums must be carefully examined and scarified, if they require it, and the temperature of the head reduced by cold

sponging, or the application of a bag of ice when necessary. The chief duty, however, of the parent is to be alive to these symptoms, and early to detect the incipient mischief, that by a prompt application of efficient means the accession of so formidable a malady may be prevented.

To *specific remedies* for hooping-cough it is scarcely necessary to allude, after what has been advanced, except by way of warning. In the simple form of the complaint such medicines are superfluous, or rather, some of them, from their violent properties, most dangerous; in the complicated forms of the disease they are inadmissible. The indiscriminate use of *purgatives*, also, a parent should avoid. Bowel affections are not an infrequent attendant upon hooping-cough, and always aggravate the primary disorder. Of *external applications* all that need be said is this, that if they are not violently stimulating, they do no harm; if, however, they contain tartar emetic, in addition to their doing no good to the disease, they cause unnecessary suffering to the patient, and are sometimes productive of dangerous and even fatal sores.

Sect. 18.—Croup.

This disease is one of the most formidable of childhood; sudden (generally) in its attacks, most active in its progress, and if not met by a prompt and decided treatment, fatal in its termination. Hence the paramount importance of parents being acquainted with the signs which indicate its approach, that medical aid may be secured at the very onset of the disease. Upon this early application of suitable remedies everything depends.

Signs of its approach.—Croup may appear in one or two ways: either preceded for two or three days by the symptoms of a common cold, accompanied with hoarseness and a rough cough; or it may attack with the most alarming suddenness, during the night for instance, although the child had been merry and well the previous evening. *Hoarseness*, however, is the premonitory and important symptom of croup; for although it is not every hoarseness that is followed by this formidable malady, still this symptom rarely attends a common cold in young children, and therefore always deserves, when present, the serious attention of the mother, particularly if accompanied by a rough cough.

The symptoms or signs of the approach of this disease have been ably and graphically depicted by the late Dr. Cheyne: this has been before referred to, but it will bear repetition. He says: 'In the approach of an attack of croup, which almost always takes place in the evening, probably of a day during which the child has been exposed to the weather, and often after catarrhal symptoms have existed for several days, he may be observed to be excited; in variable spirits; more ready than usual to laugh or cry; a little flushed; occasionally coughing, the sound of the cough being rough, like that which attends the catarrhal stage of the measles. More generally, however, the patient has been for some time in bed and asleep before the nature of the disease with which he is threatened is apparent; then, perhaps, without awaking, he gives a very unusual cough, well known to anyone who has witnessed an attack of the croup: it rings as though the child had coughed through a brazen trumpet: it is truly a *tussis clangosa*; it penetrates the walls and floor of

the apartment, and startles the experienced mother—"Oh, I am afraid our child is taking the croup!" She runs to the nursery, finds her child sleeping softly, and hopes she may be mistaken. But remaining to tend him, before long the ringing cough, a single cough, is repeated again and again. The patient is roused, and then a new symptom is remarked: the sound of his voice is changed: puling, and as if the throat were swelled, it corresponds with the cough; the cough is succeeded by a sonorous inspiration, not unlike the kink in hooping-cough—a crowing noise, not so shrill, but similar to the sound emitted by a chicken in the pip (which in some parts of Scotland is called the roup, hence probably the word croup); the breathing, hitherto inaudible and natural, now becomes audible, and a little slower than common, as if the breath were forced through a narrow tube; and this is more remarkable as the disease advances,' &c. &c. It is unnecessary for me to add to the foregoing picture.

Maternal Management.—Having early obtained medical assistance, attend with the strictest obedience to the directions given. And in this disease more than any other, it is particularly important that the mother should give her personal superintendence; for the activity of the progress of the disease leaves no time to retrieve errors or atone for neglect. The practitioner may be prompt and decided in the measures he prescribes, but they will avail little unless they are as promptly and decidedly acted upon. The parent will have her reward; for, if timely aid has been afforded, and adequate means used, the event will be almost invariably favourable.

But I can suppose this book in the hands of a mother (at a distance from medical aid) whose child

has had an attack of croup previously, and in whom she again recognises its approach: is she to allow an hour or two to elapse whilst the medical man is sent for, without resorting to any measures for the child's relief? I should say certainly not; for there is at least *one* remedy which is at once simple and efficacious—that is, the hot bath.

First.—Place the child in water *as hot as can be borne*, up to the chin, and keep it in until it begins to get faint—then roll in a blanket, and nurse it off to sleep if possible. The relief afforded by this is sometimes most marked, and always beneficial.

Secondly.—If you have any ipecacuanha wine or any antimonial wine in the house, give a tea-spoonful of either every ten minutes until the child vomits freely. The dose may be followed by a draught of warm water to encourage the vomiting. If the child be a weakly one, and the premonitory symptoms have lasted some days, do not administer the emetic, but use all the more diligence in getting medical advice. Meanwhile, let the child breathe in the steam of boiling water, with which a little vinegar has been mixed.

Thirdly.—Do *not* apply either mustard poultices, leeches, or blisters to the neck—such treatment more frequently does harm than good, and often interferes with the treatment which subsequently becomes necessary.

General Directions.—The quieter a child can be kept the better. Every movement necessitates so much more breath, and thus increases the child's distress. The air of the room should be warm and *moist*—do not allow any visitors to the child; they only excite it, and add to its discomfort. In extreme cases, the windpipe has to be opened by the surgeon, in order

to save life: do not hesitate to have this done, for even in cases where the operation does not actually save the child's life it at least saves much suffering, and prevents the child being choked to death.

Its Prevention.—Croup seldom occurs during the first year of infantile life; most frequently in the second year, and between this and puberty (the fourteenth year) its attacks are occasionally to be apprehended. When it has once attacked a child, it is very liable to recur at any period before the thirteenth or fourteenth year of age. It may even do so several times, and after intervals of various duration. It is very desirable, therefore, that a parent should be acquainted with the means of prevention. They consist in the following measures:—The careful protection of the child from cold or damp weather, particularly the north-east winds of spring, following heavy rains; for croup is most prevalent in those seasons which are cold and moist, or when the alterations of temperature are sudden and remarkable. If the residence of the child is in a low, damp situation, or near the sea, or any large body of water, he should, if possible, be removed to a healthier spot, for croup appears to be almost endemic in such places. Five times, in its most severe form, have I been called to treat this disease in children of the same family, who live in the immediate neighbourhood of London, but inhabiting a house in a low marshy spot, and near a large body of water: and when I have met this complaint it has generally been in similar places; seldom in the city itself. Dr. Alison, however, notices a curious circumstance, and which it may be useful to remember: he says, 'That it seems to be often produced by the child's sitting in a room newly washed; and that he has

noticed its frequent occurrence on a Saturday night, the only day in the week on which it is customary for the lower orders of Edinburgh to wash their houses.' This is a valuable hint, more particularly where there is a predisposition to this disease in a family. Then the child, every morning upon rising, should be sponged all over, or have the shower-bath—the latter is best if it can be borne; in either case the water must be cold, and have bay-salt in it; and considerable friction with a hard or coarse cloth should be made in drying the person. The clothing should be warm in the winter and spring, the neck always covered, and flannel worn next the skin throughout the year; but hot rooms, and much clothing when in bed, must be avoided. The diet must be light and nourishing: no beer or stimulant given. The state of the bowels must be carefully watched, and immediate recourse had to medicine, upon the appearance of catarrhal or croupal symptoms.

It is of course particularly necessary to enforce these precautions immediately after a recovery from an attack, for there is great tendency to relapse. If the attack takes place during the winter or spring months, the invalid must be kept until milder weather in the house, and in apartments of an equable and moderately warm temperature. If in summer, change of air, as soon as it can be safely effected, will be found very useful.

Croup is not contagious; although like sore throat, and for the same reasons, it is found sometimes existing at the same time, or in quick succession, in more than one child of the same family. Thus the twin children of Dr. Gregory of Edinburgh were seized with croup on the same night. They had both been walking in the evening on the sea-shore during a cold wind.

Sect. 19.—Water in the Head.

Water in the head is a formidable disease, and not infrequent in its occurrence. It is often destructive to life, and the instances are numerous in which it has appeared again and again in the same family, carrying off one child after another, as they have successively arrived at the same age. But notwithstanding its frequency and fearful character, a mother may do much to overcome a constitutional predisposition to this disease, and thus prevent its appearance, as also she may assist greatly in promoting its cure, when it does occur. Hence it is most important that a mother should be acquainted with the measures of prevention; and also, when it does manifest itself, that clear and accurate information should be possessed upon what may be said to constitute the maternal management of the disorder.

Its Prevention.—Whenever there is found to exist in a family a predisposition to this malady, one or more children having suffered by it, a mother must make up her mind, and in the strictest sense of the word, to be the guardian of the health of any child she may subsequently give birth to. *The first* precautions of a mother, whose children have shown this predisposition, must be taken *before the child's birth.* Too sedentary a life, too much luxury or too late hours, must be given up from the first; if possible, pass some months at the seaside, taking walks daily, and avoiding the debilitating influences of so-called fashionable life.

The infant must be brought up on the breast; and if the mother is not of a decidedly healthy and robust

constitution, she must obtain a wet-nurse possessing such qualifications. The breast-milk, and nothing besides, must form the nutriment of the child for at least nine months; and if the infant is delicate or strumous, it will be prudent to continue it even three months longer. When the period arrives for the substitution of artificial food, it must be carefully selected; it must be appropriate to the advancing age of the child; nutritious and unirritating. Good air and daily exercise, and the bath or sponging, are of much importance; in short, all those general measures which have a tendency to promote and maintain the tone and general health of the system, and thus induce a vigorous and healthy constitution, and to which reference has been so fully made in the second chapter of this work, must be strictly regarded and followed out by the parent. The condition of the digestive organs must be the mother's especial care. Costiveness must be guarded against; and if at any time the secretions from the bowels indicate any derangement, the medical attendant must be applied to, that appropriate remedies may without delay be exhibited. Their disordered condition is frequently productive of head-disease. Again and again have I clearly traced the origin of the complaint, of which I am now writing, as directly resulting from disorder of the digestive apparatus. To a child thus predisposed to water in the head, the healthy state of these organs is not only of first consequence, but any deviation from health to be dreaded, to be immediately attended to, and guarded against in future; and, as there is a great liability to these attacks at the time of weaning, the above remarks especially apply to that period, when

due attention must be particularly paid to the plan of diet adopted.

During teething, the mother must be especially watchful, for it is at this time that the disease so commonly appears; the irritation produced by this process being a frequently exciting cause. Everything, therefore, that will tend to allay excitement of the system must be strictly enforced, as well as all causes avoided which would produce derangement of the stomach and bowels. The head should be kept cool. For this purpose it must be sponged night and morning throughout the whole period of teething; a horse-hair pillow used in the cot; and nothing but a light straw hat should be worn, except in winter. The diet should be moderate, and carefully regulated after leaving the breast, and the child should be as much as possible in the open air. The mouth must be occasionally examined, and if the gums become hot or distended, they must be scarified or lanced, as may be advised. If the parent finds at any time an unusual heat about the head, the medical man must be at once consulted; or if there is watchfulness or indisposition to sleep at the proper periods, or frequent startings in the sleep, irritability of temper, and much crying, danger should be apprehended, and prompt and judicious means employed.

Eruptions about the head, or sores behind the ears, discharging more or less, will sometimes make their appearance just before the cutting of a tooth, and disappear after it is cut: or it will sometimes happen that, if not interfered with, they will continue throughout the whole period of dentition. Great caution should always be exercised in reference to these eruptions in all children; and when there is a predisposition

to water in the head, it is dangerous to interfere with them at all, except they run to such an extent as to become very troublesome. The sudden healing of these cutaneous affections has again and again been followed by head disease. They are unsightly in the eyes of a parent, but it must be recollected that they render the situation of such children much more safe; and when teething is completed they will generally disappear spontaneously: or if they should not, they will readily do so by proper medical treatment. I have no doubt that many a child's life has been spared by the appearance and continuance of these eruptions; and so sensible are medical men of the benefit derived from them, that in individuals in whom they do not appear, and in whose family there exists a predisposition to the disease now under our consideration, an issue or seton in the arm or neck has sometimes been made, and had a remarkable influence in warding off this affection. Dr. Cheyne refers to the circumstance of ten children in one family having died of this disease; the eleventh, for whom this measure was employed, having been preserved.

Stimulants throughout the whole period of infancy and childhood, and of every description, *must be prohibited.* Children nursed by drunken parents, and who have indulged in the use of spirituous liquors during suckling, are never healthy; are the frequent subjects of convulsions, and many of them die eventually of water in the head. The practice of administering spirits to the child itself—a habit, unfortunately, not very uncommon among the lower classes—produces a similar result. Narcotics may operate in a like manner: they derange the whole system when persevered in, particularly affecting the brain; pro-

mote disease; and sometimes give rise to the one in question. This remark should be borne in mind by the mother, as Godfrey's Cordial and other preparations of opium are too often kept in the nursery, and secretly given by unprincipled nurses to quiet a restless and sick child.

All causes of mental excitement should be carefully avoided, and particularly the too early or excessive exercise of the intellectual faculties. If the child be endowed with a precocious intellect, the parent must restrain rather than encourage its exercise. Put back the hour of produce that the plant may last. Nothing is more likely to light up this disease in a constitution predisposed to it, than a premature exertion of the brain itself.

Maternal Management of the Disease.—The early detection of this disease is of great importance. The chances that the medical treatment will terminate successfully much depend upon the early and prompt application of remedial means. The reason why these cases have so often terminated fatally has arisen from the physician being consulted when irremediable mischief had already taken place. It would be difficult, however, to point out the signs of its approach in all its forms (for this disease does not always commence in the same way, sometimes with fever, &c.), still it most frequently occurs preceded by certain striking and well-marked symptoms: and whenever the following are noticed by the parent apprehensive of mischief, she should at once send for her medical adviser:—watchfulness, or starting from sleep with a cry of alarm; prolonged screaming without any obvious cause; moaning and drowsiness; rolling the head from side to side on the nurse's arm, or thrusting it back against the

pillow; knitting the brows and aversion from light, with heat of head, and constant carrying the hand up to it; half-closing the eyelids, and frequent vomiting.

The chief and principal point in the maternal management (for it includes every other), is promptly and faithfully to administer the remedies prescribed by the medical attendant. A vigilant maternal superintendence is more necessary in this than in almost any other disease; and it is highly desirable, therefore, that the mother should have a day and night nurse—individuals upon whom she can depend. A careful notice of symptoms and changes in the patient, in the intervals of the medical man's visits, and a true and faithful report to him upon his return, are of essential importance. A sleepy nurse will neglect the application of the most important remedies, and necessarily give an unfaithful report of symptoms; hours the most valuable to the child's welldoing are thus lost, and the chances of saving its life worse than problematical.

The temperature of the room should be kept rather cool than warm, and the bed-clothes only sufficient to preserve the natural heat of the body. Strong light must be excluded. Great quiet and freedom from all excitement of the senses should be enjoined, and irritation of the temper carefully avoided; and this is particularly necessary where the child is naturally of a quick and sensitive disposition. The remarks on the 'Sick Room' (page 188) may be read and carefully considered, as they apply here with great force.

A very useful and indeed powerful remedy prescribed in this disease is sometimes rendered utterly useless from the want of a persevering and also a proper mode of applying it—viz., cold applications to the head.

It is to be effected either by means of cloths kept constantly wet with cold water or evaporating lotions; or by means of a bladder containing pounded ice mixed with water. If the two former are employed, they require frequent renewal, or they become dry, hot, and more injurious than useful; and whichever is used, it must be kept in constant contact with the forehead, temples, and upper part of the head. Here is another error: they are seldom used large enough, and only partially cover these parts. With the further view of keeping the head cool, and preventing the accumulation of heat, a flat horse-hair pillow should be employed, and the head and shoulders somewhat raised.

Perseverance in the measures prescribed, even when the case appears beyond all hope, must ever be the rule of conduct. Recovery, even in the most advanced periods of the disease, in cases apparently desperate, occasionally takes place. There is great reason to fear that many a child has been lost from a want of proper energy and perseverance on the part of the attendants in the sick-room. They fancy the case is hopeless, and, to use their own expression, they 'will not torment the child with medicine or remedies any longer.' 'Whilst there is life, there is hope,' is a sentiment which may with great truth be applied to all the diseases of infancy and childhood. Striking, indeed, are the recoveries which occasionally present themselves to the notice of medical men; and those individuals may with great justice be charged with unpardonable neglect who do not persevere in the employment of the remedies prescribed, even up to the last hours of the child's existence.

Sect. 20.—Convulsions.

At no period of life are convulsions so liable to take place as in infancy. The nervous system of the child is peculiarly sensitive, and the sources of its derangement are numerous at this period. It is hardly necessary to allude to those causes which most usually excite convulsions, except by way of warning. *Errors in diet* are by far the most common source of convulsive affections; and it has been justly remarked, that so long as nurses and mothers believe that children thrive in proportion to the quantity they eat, so long will convulsive diseases be frequent and severe. If the quantity and quality of the food is but carefully regarded, there will be no fear of this affection from this source.

During *teething*, convulsions are perhaps more frequent than at any other period; not that they so commonly arise from the irritation caused by the cutting of a tooth, as is generally thought, for it is more often the result, even at this time, of irritation of the bowels from some error in diet.

Eruptions about the head, which have been discharging, being suddenly suppressed—falls on the head—violent mental emotions on the part of the nurse, affecting her milk, and through her the child; these, and a variety of other causes, will occasion this formidable affection. Most of these may in a great measure be avoided, if the child be properly managed, and ought not therefore ever to occur in a well-regulated nursery; some, however, are unavoidable, and the question comes, what course is the mother to take at the moment of the occurrence of a fit?

Instantly put the child up to the hips in a warm-bath, and apply cold water to the head; the child's head should be raised, and the water poured on it, in a gentle and continuous stream, out of a jug, from a small height. If it is the period of teething, examine the mouth; and if the gums are swollen and inflamed, having the irritated appearance of teething, the mother will be fully justified in lancing the gums, provided medical aid is not near.

If you have reason to believe the attack is induced by an overloaded stomach, and the food has not been long taken, administer an emetic of ipecacuanha, and then a purgative enema; and none will answer better than a tea-spoonful of the spirits of turpentine in half a tumbler of warm gruel. The latter application may be beneficially employed in all cases, from whatever cause the convulsions may arise.

These means will ordinarily afford relief, and by this time the medical attendant will be present to advise what further steps ought to be taken.

Sometimes the convulsions begin and continue *on one side* of the body only. These cases are always more grave, and require great care in the treatment.

CHAPTER XV.

ON THE PREVENTION OF SCROFULA AND CONSUMPTION.

On some subjects connected with health a degree of ignorance prevails that cannot be too much lamented, for the prevalence of correct notions would be followed by the richest harvest of good. Scrofula is, perhaps, more than any other evil to which humanity is liable, beset with dangerous misconceptions. It engages a great deal of attention, and its *cure*, when it forces itself into notice, is diligently attempted. But its *prevention* would be far more certain than its cure ever can be, were the popular mind fully informed of its real nature. *Then*, we should not only see the development of this malady in individuals arrested, but the diffusion of the scrofulous constitution itself in a great measure prevented.

Scrofula—formerly designated 'the king's evil'—is a constitutional disease, generally inherited, which is characterised by the chronicity of its manifestations, and by its tendency to infect gland structures—glands, skin, and mucous membranes. Its most common situation is in the lymphatic glands of the neck: this follows on slight injuries; sometimes even without any known cause. The glands enlarge, and ultimately ulcerate. We may therefore express this in the fol-

lowing words—an inflammatory process, which is easily set up, but which is with difficulty cured. But it occurs also in other parts of the body. If in the lungs, it constitutes consumption or scrofula of the lungs; if in the bowels, mesenteric disease; if in the joints, white-swelling, and so on. It may safely be defined as a disease of debility, which besets the functions intended to maintain the whole frame in constant repair, the result being the presence in the blood of a material which does not belong to the natural and healthy condition of the frame, which becomes deposited in one part or other, obstructing its functions, destroying its structure, and leading to processes which *may* result in the removal of these diseased deposits, but which more frequently destroys life.

Thus—to take the examples to which we have just referred—if this morbid matter is deposited in the *glands of the neck*, they become hard and enlarged, and may remain so for years; but if inflammation is excited, and there is pain, heat, and redness, what was hard becomes soft, the skin covering it gets thin and breaks, matter is discharged, and with it perhaps a hard concretion of scrofulous deposit; after which all swelling, heat, and pain will subside, and the parts return to their former state in a measure uninjured, an unsightly scar being the only mark of past disease. In this case, then, the disease is deposited and removed without destroying life, because the part in which it was located, and from which it had to be removed, was not a vital organ.

Let the same deposit be formed in *the lungs*, and follow the same course, the consequences will be far different. The portion of the lung occupied by the disease will inevitably be destroyed. Although the

tuberculous matter may be expectorated, the damage to the lung cannot be repaired. If one portion passes through the process safely, the chances are that the same deposit has taken place in other parts of the organ, which will have to go through the same course, till death arises from the destruction of the organs of breathing.

As a last example, take another form of scrofula, very common and very fatal among children, where this deposit prevents the nourishment of the body. I refer to *mesenteric disease*. In close connection with the bowels there are a large number of little glands called mesenteric, through which the nutriment is conveyed from the alimentary canal to the large blood-vessels. If this diseased deposit invade these glands, and they become charged with it, the nutriment cannot pass through them; and although the child's appetite become ravenous, and the amount of food taken be ever so large, it cannot pass into the blood, and the child dies starved.

The popular notion, then, that this disease is chiefly confined to the neck, is not correct. It may, as I have endeavoured in a familiar manner to explain, pervade *any part* of the system, producing consequences more or less serious according to the situation and organs involved.

The system obtains it in one of two ways: it is either inherited, or produced after birth. In the vast majority of individuals it has been transmitted from parents to offspring. This is its chief source. Marriage at too early an age, before the system is developed, or where there is great disparity of years, or of persons who are too nearly allied in blood, and more especially of those who are conscious that scrofula in any of its

shapes exists in their families, and perhaps in their own frames—must be avoided. It will be difficult to get people to recognise and conform to this cautious and unselfish policy, opposed, as it often will be, to the strongest predilections. But much is to be hoped from the spread of information. When the public are fully aware of the misery and suffering which want of foresight and self-control must entail on their offspring, *this liability* will be taken into the account of prudence, as much as that of insanity already is.

It may be originated in the healthy offspring of healthy parents by the influence of unfavourable circumstances; as insufficient nutriment, habitual exposure to wet and cold, the privation of pure air and light, want of natural exercise, and mental disquietude.

The predisposition may exist in various degrees of force.—In the same family its features may be more or less prominent: in one child scarcely manifest; in another strongly marked. If it be possessed by either parent, the children must be considered as *liable* to be partakers of the same predisposition; and where both parents are strumous, the children will in all probability be doubly so. The predisposition, as noticed in consumption, will now and then seem as it were to pass over one generation altogether, and visit the next with terrible havoc. Various causes tend doubtless to give rise to these different results. Much will depend upon the state of both parents' health at the time of the conception of the child—much upon the management of the mother's own health during the pregnancy—and, above all, upon the physical and moral management of the child after its birth, and the circumstances by which it is surrounded.

The mode of prevention is certainly the most

important part of this inquiry, and seems to me peculiarly appropriate in a work addressed to mothers. The fact is, it is to the *mother's* judicious care and watchful perseverance through the whole of childhood and youth that we must chiefly look for a successful issue to any means that may be suggested to ward off this most destructive disease. Most happily, if we cannot eradicate the tendency, we do possess the means of so invigorating and amending the constitution as to justify the expectation of a freedom from the peculiar disorders in which it is prone to manifest itself. And it assuredly becomes all parents to obtain clear notions upon this matter. If the future happiness and domestic welfare of families are alone considered, the inquiry is a deeply important one; but when it is remembered that for the most part this sad condition of health is the parents' gift, the obligation devolving upon the latter, so far as it lies in their power, to counteract its baneful effects, must appear in a strong and painfully convincing light. Not that in the system of management to be adopted there is any wide difference from that which in the first part of this work has been proposed for all children. For the most part it is nearly the same. But in carrying out, it demands a more rigid and scrupulous attention to its details, conjoined with a careful protection of the child from those sources of injury which upon other constitutions might fall harmlessly. It embraces attention to diet, clothing, cleanliness, and bathing, the regulation of the stomach and bowels—and, where it is practicable, care in the selection of climate and residence, and also in the choice of a school.

Of the food.—If the infant inherit the strumous predisposition from the father only, the mother being

entirely free and of sound health, it may be nursed by her; but if the mother is strumous, *wet-nurse* suckling must be resorted to. *Artificial feeding is quite out of the question*; it alone would be sufficient to develope the disease, as such a child would be imperfectly nourished; this is a fruitful source of scrofula in England. Great care and caution must be exercised in selecting the wet-nurse; she must be of sound and vigorous health; and the choice should always be left to the medical attendant. The child should be nursed until it is twelve months old, by which time it will have passed through some of the dangers at least incidental to the period of teething. And for the last six months of this time it will be advisable to have a fresh wet-nurse (in most cases) to secure the perfect nourishment of the system. If artificial food is given at all at this time, it must be of the lightest quality, and form but a small proportion of the nutriment.

When the child has got teeth to *masticate* solid animal food, it must be commenced with caution: at first small in quantity, of the lightest quality, and only on alternate days. Its effects must be watched. If not found to heat and flush the cheeks, and the secretions of the bowels continue healthy and regular, and the child grows and looks well—these are sure indications that the new diet agrees with him. For the future, the food should always be *nourishing*, but *unstimulating*.

Of the clothing.—The regulations given at page 110 must be strictly followed out; great care being observed that it is suited to the season of the year, and amply sufficient to protect the child from every sensation of cold or chill; at the same time light in quality, so as not to overheat and oppress. *The neck*,

arms, and legs must be covered. Their exposure is a frequent source of acute disease, and will invariably be found in a scrofulous child to cause the glandular enlargement so much dreaded. Flannel should always be worn next the skin; of thinner texture in summer, and always taken off at night.

The inspiration of a *pure air* is indispensable. One authority, indeed, considers vitiated atmosphere *alone* sufficient to generate scrofula. Whether this be so or not, there can be no doubt that impure air favours the development of it in those who already possess the predisposition. The full and particular directions for the ventilation of the apartments, already given at page 90, must in this case be particularly regarded, as well as those upon light, the want of which would be equally injurious. If the child is born late in the year, he had better not be taken out of doors until the following spring, and if the apartments inhabited are well ventilated, the confinement will not be injurious. For the future, when the weather will permit, the more the child is in the open air the better. The excellent effect of an out-door life in the country, in the warm seasons of the year, upon those who already suffer from glandular enlargements, has often been noticed. If practicable the exercise of riding on a donkey or pony should be taken daily; this will be particularly serviceable where there is too great delicacy to take sufficient exercise on foot; for exercise should at all times be moderate, and stop short of fatigue. Early hours must be observed, and a careful avoidance of vicious and exhausting indulgences. A wisely-ordered moral oversight is of infinite importance.

Such constitutions are peculiarly susceptible to *cold and damp*. The moist, cold, and variable climate

of this country is particularly favourable to its developement. Everything, therefore, should be done to fortify and strengthen the system, and diminish the liability to the impression of cold. Bathing, properly conducted, will aid us greatly in this matter. Cleanliness is imperative; but more than this is required. The infant at first should be washed in warm water in the morning, and a bath, of a warmth grateful to the child's feelings, should be used every night. After a few weeks, and by degrees, the temperature of the water with which the child is sponged in the morning should be lowered, until it can be borne cold. As he grows older, the cold salt-water (artificial or otherwise) plunge-bath may be employed in summer, or the shower-bath, if the system is able to bear the shock—or, what is better still, if the child resides on the coast—he may bathe during the summer months.[1]

The situation of a *residence* is of great moment, and frequently a matter of much practical difficulty. A few months spent in a damp locality by a child predisposed to scrofula is quite sufficient to develope it in one or other of its forms. Again and again have I witnessed the death of one or more members of a family clearly traceable to the removal to a residence in a damp locality, developing disease which, I feel assured, would have remained dormant had such unfortunate change of residence not been made; for, a drier climate being sought, similar disease was arrested in other members of the same family. There is a village in the neighbourhood of London, surrounded by hills, itself situated in a low valley, a river making many windings through it, which in winter is always

[1] See the Precautions on Sea-bathing, p. 108.

enveloped in a damp mist, in which I have witnessed the foregoing result more than once.

If possible, then, avoid for a scrofulous child a dwelling built near water (particularly if stagnant) or near marshes; or one immediately surrounded by or overhung by large trees, which interfere with the free circulation of the air, and cause a state of constant humidity of the atmosphere, except in the driest weather. Sir James Clark, in his admirable work on Scrofula and Consumption, says: 'It is not generally known how limited may be the range of a damp unhealthy atmosphere; a low situation surrounded by trees may be capable of inducing tubercular disease in an infant, whereas a rising ground a hundred yards distant may afford a healthy site for his residence.'

If any *derangement of the digestive functions* arises, this must be brought under the notice of the medical attendant. In these children costiveness is apt to prevail; but it will be found generally to arise from a mismanaged diet, or from over-feeding. The fact that defective nourishment will develope scrofula sometimes leads into the opposite extreme, and the system as a consequence becomes loaded, the digestive organs deranged, and costiveness ensues. The due regulation of the bowels, therefore, is of great consequence; and they should always be watched with great care. If purgative medicine at any time becomes necessary, it should be of the mildest kind, so as to expend as little strength as possible.

Great caution will be necessary in *the education*. These children are generally precocious in intellect, which too often leads to an injurious, and, as it too frequently proves, fatal mental discipline. *The long confinement in a badly-ventilated school-room*, day

after day, and the mental exhaustion which hard study induces, are fraught with peculiar danger to strumous children. Sir James Clark, in the work already quoted, remarks: 'At no period of youth should education be pushed beyond its proper limits, or the mind be worked above its powers: the welfare of the pupil demands the observance of this rule on the part of the master as well as the parents, more especially when the child belongs to that class of strumous children whose intellects are preternaturally acute. Unfortunately, however, these are generally the pupils selected by the master to do credit to his establishment: every means are taken to encourage the premature manifestation of mind, and to stimulate the child to renewed exertions; and thus health, and even life, is often sacrificed at a period of brilliant promise, when the hopes of friends are buoyed up by the fallacious expectation of a harvest which a more rational system of education might have realised.'

The evils arising from this erroneous system of education are more prevalent in female than in boys' schools; in the latter the mischief is in some measure counterbalanced by the natural activity of the boy, and the greater amount of open-air exercise which he enjoys than the girl. To quote Sir J. Clark again: he says, 'The prevailing system of female education is indeed fraught with most pernicious consequences; at a period of life when the developement of the physical constitution demands the most judicious management, young girls are sent to schools in which no other object appears to claim consideration than the amount of mental improvement, or rather the variety of accomplishments with which they can be stored. At an early hour in the morning the pupil is set down at

the piano or the drawing-table, where she remains in a constrained position, and often in a cold room, till the whole frame, and more especially the lower extremities, become chilled; the brief relaxation during the short space allowed for meals and the formal walk are insufficient to restore the natural warmth of the system; and it often happens that girls are allowed to retire to their room at bed-time with their feet so chilled as frequently to prevent sleep for hours. . . . While school-boys have the advantage of a play-ground, or enjoy their recreation at pleasure in the open fields, the unfortunate inmates of a female boarding-school are only permitted to walk along the foot-paths in pairs, in stiff and monotonous formality, resembling, as Beddoes justly remarks, a funeral procession, and wanting nothing to funereal melancholy but sables and the hearse. The consequence is, that the muscles of the upper extremities, and those which are chiefly concerned in the support of the trunk, are rarely called into active play; they do not acquire strength as the body increases in stature; they remain weak and unequal to the task of supporting the trunk in the erect posture. A curved state of the spine is generally the consequence; and this, by altering the position and form of the thorax, renders the respiratory movements imperfect; the capacity of the chest is diminished, and the lungs are consequently more liable to congestion, and the diseases which are its consequences. While the natural form of the body is thus destroyed, the derangement of the general health is manifested by the paleness of the countenance, the dry and coarse appearance of the skin, costive bowels, and cold extremities. In short, all the requisites for the production of struma may be

found in a large proportion of female boarding-schools, where the system we have described is pursued.' Every physician practising in a large city can most fully confirm these important statements; and although there are many exceptions to this system, still it is always desirable that the female children of a scrofulous family should be educated at home during their earlier years, where a judicious mental as well as physical training can be more completely followed out.

Such are the principal points comprehended in the management of the child of scrofulous constitution. Experience has fully proved their efficacy. Their more extensive employment would lead to an incalculable amount of benefit to mankind. Terrible as are the ravages of this malady, sweeping off, as it sometimes does, and in the space of a few short years, every member of a large family, by that most destructive of all its developements, consumption—it cannot be doubted that, as just views of its nature become more widely propagated and the means of prevention more generally adopted, its prevalence will be largely diminished, and this scourge be less familiar to us. The present state of science, however, seems to show that this happy result must be expected from *prevention* rather than *cure*.

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